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GUIDANCE IN VOCATIONAL EDUCATION--GUIDELINES FOR RESEARCH AND PRACTICE, A REPORT OF A NATIONAL INTERDISCIPLINARY SEMINAR (OHIO STATE UNIVERSITY, JANUARY 12-14, 1966).
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IN RESPONSE TO THE NEED FOR EFFECTIVE PROGRAMS OF VOCATIONAL GUIDANCE, THE CENTER INVITED NATIONALLY RECOGNIZED LEADERS FROM SEVERAL DISCIPLINES TO DEVELOP GUIDELINES FOR INITIATING AND IMPROVING SUCH PROGRAMS. THERE WERE SIX OVERALL GOALS--(1) TO STIMULATE INTERDISCIPLINARY RESEARCH AND INTEREST, (2) TO EVALUATE THE STATUS OF THE FIELD AND TO IDENTIFY SPECIFIC PROBLEM AREAS, (3) TO ASSIST EDUCATORS AND ADMINISTRATORS IN ESTABLISHING POLICY AND PROGRAM GUIDELINES, (4) TO COORDINATE AND EXCHANGE INFORMATION AMONG THE RELEVANT DISCIPLINES, (5) TO PROJECT LONG-RANGE NEEDS AND GOALS, AND (6) TO REDUCE THE TIME LAG BETWEEN RESEARCH, THEORY, AND PRACTICE. ADDRESSES INCLUDED--(1) "AN INTERDISCIPLINARY APPROACH TO VOCATIONAL EDUCATION AND GUIDANCE," (2) "OVERVIEW OF RESEARCH AND DEVELOPMENT ACTIVITIES--DIVISION OF ADULT AND VOCATIONAL RESEARCH," (3) "MANPOWER AND LABOR ECONOMICS--IMPLICATIONS FOR GUIDANCE IN VOCATIONAL-TECHNICAL EDUCATION," (4) "A SOCIOLOGICAL APPROACH TO THE ANALYSIS OF PREPARATION FOR WORK LIFE," (5) "PSYCHOLOGICAL JOB ADJUSTMENTS--IMPLICATIONS FOR GUIDANCE IN VOCATIONAL-TECHNICAL EDUCATION," (6) "EXPLORATION IN COMPUTER-ASSISTED COUNSELING." (SL)

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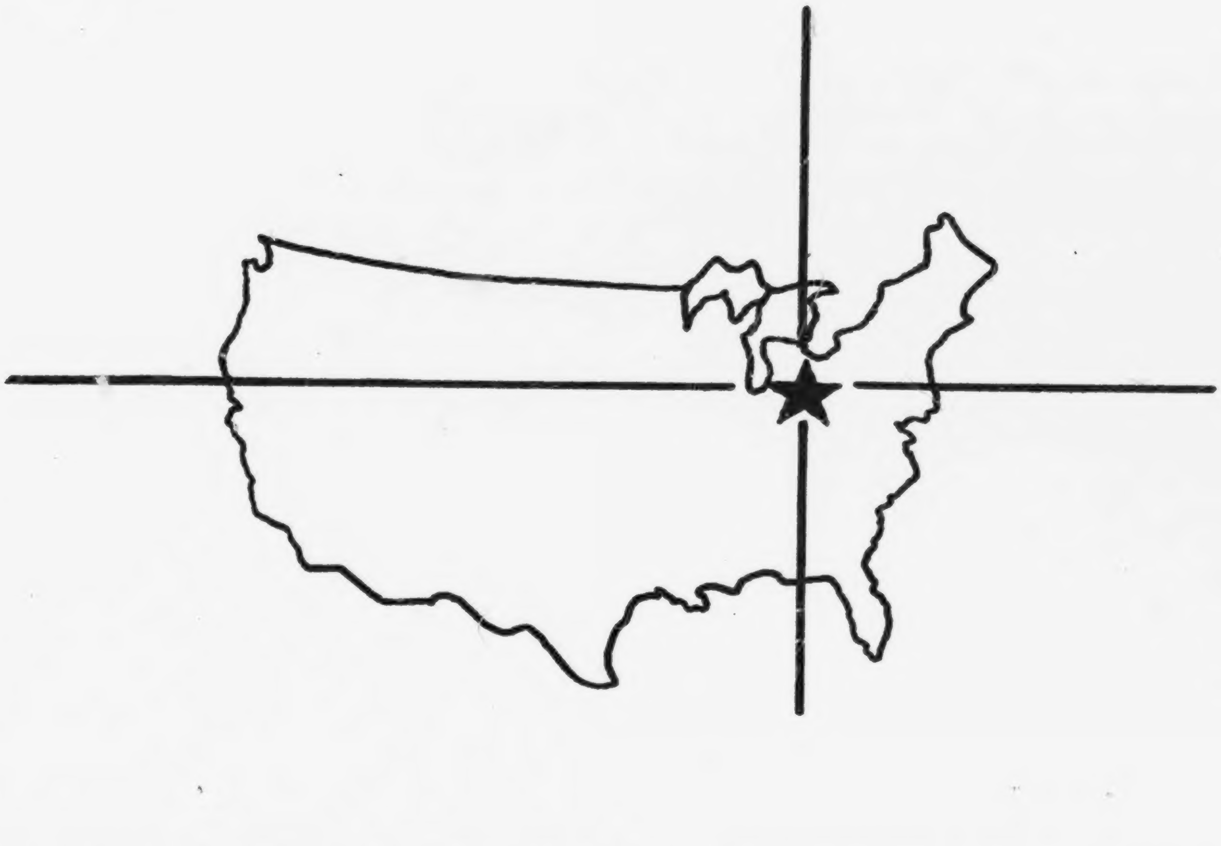
Guidance in Vocational Education

Guidelines for Research and Practice

A National Interdisciplinary Seminar



THE CENTER FOR RESEARCH AND LEADERSHIP DEVELOPMENT
IN VOCATIONAL AND TECHNICAL EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Guidance in Vocational Education

Guidelines for Research and Practice

A Report of a National Interdisciplinary Seminar
January 12-14, 1966
held at
The Ohio State University, Columbus, Ohio

Edited by
Robert E. Campbell, Seminar Chairman
The Center for Vocational and Technical Education

The Seminar was sponsored by The Center for Vocational and Technical Education, The Ohio State University, 980 Kinnear Road, Columbus, Ohio 43212.

Preface

Recent trends in the world of work and in education have placed increased emphasis on the need for effective programs of vocational guidance. In response to this need The Center for Research and Leadership Development in Vocational and Technical Education invited nationally recognized leaders from several disciplines throughout the country to meet together to develop guidelines for initiating and improving such programs.

The over two hundred participants in this interdisciplinary seminar represented forty states and Turkey and included personnel from vocational education, psychology, sociology, labor economics, guidance, rehabilitation, higher education, and research.

The National Vocational Guidance Association held their annual meeting in Columbus concurrent with the seminar.

It is difficult for a report of this type to reflect the true spirit of the meeting. However, observers could not help but be aware of the enthusiasm and willingness of participants to join hands in future cooperative efforts to further improve guidance in vocational and technical education. Undoubtedly, the "ripple" effect of this seminar will be felt throughout the profession for many years. In addition to the immediate benefits accruing to participants and the institutions and organizations they represented, the seminar contributed to identifying and clarifying problems for future investigation and study.

Dr. Robert E. Campbell, Occupational Psychologist at The Center, is to be commended for his excellent work in planning and conducting this seminar. The following persons who contributed to the development of the program merit recognition: Dr. Frank M. Fletcher, Professor of Psychology, The Ohio State University: Dr. Herman J. Peters, Professor of Education, The Ohio State University; Dr. Francis P. Robinson, Professor of Psychology, The Ohio State University; Dr. Carroll L. Shartle, Assistant Dean, College of Commerce and Administration, and Professor of Psychology, The Ohio State University; Dr. Byrl R. Shoemaker, Director of Vocational Education, State of Ohio; Mr. Ronald E. Vidmar, International Business Machines Corporation; Dr. Charles E. Weaver, State Supervisor, Guidance Services, State of Ohio; and Mr. Melvin L. Gary, Research Associate, The Center for Vocational and Technical Education.

The Center is also indebted to the consultant staff for their presentations and assistance to the participants. Special appreciation is also extended to The Center secretarial staff, especially to Miss Phyllis Armentrout and Mrs. Ursula Makey who provided invaluable assistance for the seminar program and the preparation of this report.

The Center for Research and Leadership Development in Vocational and Technical Education

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Adult and Vocational Research, U.S. Office of Education. It serves a catalytic role in establishing a consortium to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach, and interinstitutional in its program.

The purposes of The Center are:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;

2. To simulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;

3. To encourage the development of research on vocational and technical education in the many concerned colleges and departments in institutions of higher education;

4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;

5. To upgrade vocational education leadership (state supervisors, teacher educators, and others) through an advanced study and in-service education program;

6. To establish a storage and retrieval system in vocational and technical education;

7. To provide educational opportunities for individuals contemplating foreign assignments and leaders from other countries responsible for the administration and supervision of vocational education.

The Center staff includes specialists in vocational education and supporting disciplines. To give flexibility in carrying out the specific functions and activities of The Center, consultants and visiting staff members are utilized on a short-term basis to complement and supplement the permanent staff.

A National Advisory Committee representing vocational education, supporting disciplines, and the world of work aids The Center staff in identifying priority areas, utilizing outside resources effectively, and communicating with key groups.

It should be pointed out that The Center's catalytic role in establishing consortia to focus on relevant problems could be especially meaningful as the profession addresses itself to some of the critical problems identified in this seminar. In short, we hope that the profession will think of The Center as a resource for establishing channels of communication and coordination in a major confrontation of the significant problems in this area.

Robert E. Taylor
Director
The Center for Research and
Leadership Development in
Vocational and Technical Education

NEED FOR THE SEMINAR

The need for the seminar has evolved from a number of recent major trends in our nation, but especially (1) the post World War II "baby boom", (2) automation, (3) advanced technology, (4) manpower needs, (5) the changing composition of the labor force, (6) a revamping of our educational system, and (7) overcrowded colleges. On some of these trends we have been caught short, i.e. although the trend was predictable, we allowed the problem to snowball, and with flushed faces are trying to dig out.

We read with trepidation the manpower estimates that we can expect approximately 26,000,000 new workers in the 1960's, an increase of 50 percent over the 1950's. One wonders how the economy is going to accommodate this flood, but there is some consolation in the fact that the industrial demand is almost equally as great (provided the potential worker has prepared for the"right occupation").

Assisting a potential or current member of the labor force to elect the "right occupation" is a complex task involving the cooperation of a number of disciplines (labor economists, educators, sociologists, psychologists, counselors, technicians, etc.). It is difficult to estimate who has the greatest responsibility, but traditionally the primary responsibility has fallen on the educational system (school administrators, guidance counselors, teachers, and the student per se). Grant Venn in his American Council of Education Report, as well as others, has stressed the importance of providing guidance services in vocational and technical education as a means of bridging the gap between education and work.

The trends have created problems for both the educator and the worker and are manifested in our culture. Symptoms are evident in various forms, e.g. shortages of skilled technicians, alienation, fears of unemployment, forced migration, early retirements, adult retraining, employee turnover, intense competitiveness for college sheepskins, and poverty programs. The modern worker has to be prepared for not just a singular occupational choice, but the probability of continuous career decisions and job adjustment and re-adjustment.

The modern guidance counselor and vocational educator have an equally difficult task in assisting the potential worker in a changing world of work. For long-range planning, guidelines need to be formulated in anticipation of the consequences of the trends. This necessitates a merging of the relevant disciplines to consider a reconceptualization of guidance services in view of our future needs. The siminar is intended as a national task force, bringing together leaders of the key disciplines to formulate guidelines for guidance in vocational and technical education. The seminar will focus on critical issues and problems not only for high school populations, but also post high school, and more specialized populations.

PURPOSE

The major purpose of the seminar is to provide an opportunity for leaders in vocational education, guidance, and related disciplines to pool their resources and thinking in formulating plans for initiating and improving programs of research and practice. The general over-all goals of the seminar are as follows:

1. To stimulate interdisciplinary research and interest;
2. To evaluate the status of the field and to identify specific problem areas;
3. To assist educators and administrators in establishing policy and program guidelines;
4. To coordinate and exchange information among the relevant disciplines;
5. To project long-range needs and goals;
6. To reduce the time lag between research, theory, and practice.

Robert E. Campbell
Seminar Chairman

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AN INTERDISCIPLINARY APPROACH TO VOCATIONAL EDUCATION AND GUIDANCE

Walter M. Arnold
Assistant Commissioner for Vocational and Technical Education
U. S. Office of Education

It is a vitally significant factor to vocational education and to the people it serves that the expertise of all disciplines is brought to bear on this facet of education. Only by a concerted effort can high quality vocational education be readily available to all who need it. Thus the vocational guidance aspects of vocational programs must not be dealt with in a vacuum apart from the curriculum content or the needs of the individuals and the Nation's labor market realities.

This is precisely why I am so pleased to have the opportunity to address such an interdisciplinary group. However, I must confess having experienced some frustrations in preparing this address. Speaking to an audience of guidance counselors, social scientists, and educators in such a manner as to contribute substantive knowledge or ideas to each discipline is not easy. Therefore, what I have done is to develop a "sugar-coated" pill approach, one that is directed to the whole audience, hoping that your keen perceptive ability will help each of you relate those ideas and concepts that are pertinent and important to your discipline and the subject of the hour.

First, may I touch briefly on how the vocational educator sees the interdisciplinary approach in vocational education. The passage of the Vocational Education Act of 1963 marks a great turning point in the philosophy and direction in the history of vocational education. Vocational education had a very limited meaning and interest for most of the social scientists. The extent of the few exceptions is limited to relationships with industrial and business development commissions or to some tie with industrial economists, making detailed studies of business and industrial situations. This has not proved to be the best working relationship.

The social scientists, in the history of the program, have never particularly concerned themselves, as I've known it, with issues and problems of vocational education. Neither have they concerned themselves much with the impact that vocational and technical education was expected to have upon the labor force of this country or upon the careers of students. When you review the chronology of guidance, you will find that social scientists appeared from time to time when they made an effort to delve into the problems and the influences of vocational education through the medium of vocational guidance. After passage of the Vocational Education Act of 1963, U. S. Commissioner Keppel insisted that we build into the Division of Vocational and Technical Education the disciplines of economics, psychology, and anthropology. He was especially insistent about an interdisciplinary approach in the research program under Section 4(c) of P.L. 88-210. If you examine the three branches in that division, you find one branch dealing with employment opportunities, headed by a labor economist; there is a second branch dealing with human resources, directed by a psychologist. Other psychologists on that staff deal with the behavorial aspects of the students and trainees in vocational and technical education. The third branch deals with educational resources, directed by a versatile educator, who would also qualify as a social scientist by experience and interest. This observation reveals the first influence in the Office of Education toward an interdisciplinary approach to vocational education and research.

Mr. Keppel insisted, and rightly so, that we deal with program evaluation by bringing economists, particularly a labor economist, and a sociologist into the division to assist us in structuring an evaluation program. The new law under which we are operating requires an evaluation by a 12-person, ad hoc group, at intervals of no less than every five years. The first one is getting underway now. The Council will be appointed by Secretary Gardner. They are obliged, under the law, to report to the Congress, to the Secretary and to the President by January 1, 1968. I feel quite certain that the Secretary and the Commissioner will be very insistent that there be an interdisciplinary approach to that evaluation--a nationwide appraisal of what has happened or what is going on in vocational education, particularly related to the purposes in the new Act.

We see many other evidences now in vocational education of the active participation and the influence of the social scientist. For example, last summer, our office sponsored three inter-locking seminars as an in-service training program for the entire staff of our division. There were full-time sociologists, psychologists, and economists, working with the staff each day. The general objective was to help our staff to become familiar with the various influences these other disciplines have upon vocational and technical education. The Brookings Institution is presently conducting a study sponsored by the Carnegie Corporation on Economic Issues in Vocational Education. It becomes a striking revelation to attempt to make an analysis of the economic issues in vocational education because they are manifold. Another very significant participation, with an injection of still other disciplines, is the Massachusetts Institute of Technology Curriculum Workshop conducted last summer. People were invited from all over the world to participate in planning the development of the identification of a different kind of curriculum in the elementary and secondary schools; a curriculum that would have the effect of giving the young person in our public schools a better orientation to the world of work without sacrificing the attainment of skills in the three R's. A certain kind of influence will have to be brought to bear upon the public educators of this country in order for them to take a searching look at the elementary and secondary education curriculums; and to bring about a transition that will guarantee young people to grow up with a more thorough knowledge of all the factors and influences that make a community a desirable place in which to live and work. Inherent in these understandings are social and economic implications of all America at work. Occupational education must be much more than the process of acquiring technical "know how." Thus, we must recognize that technical "know how" must be supplemented with instruction that leads to civic and social responsibility for citizenship in all occupations in our 20th century labor force.

We were pleasantly surprised to find that the Educational Testing Services at Princeton had assigned a man full time to work with educators and vocational educators in measuring the proficiency of vocational teachers. It seems quite clear now that we can no longer conduct vocational and technical education programs apart from the economic, social, political, psychological conditions of the society that exists today and that we can foresee in the future. Neither can vocational education and guidance be separated, as I think they have been in many instances in our history. To get some idea of what is expected in the way of economic and social conditions, I would suggest that you read the Research Institute of America staff recommendations brought together in June 1964 entitled "Your Business in the Next Fifteen Years," which is a striking analysis of what we can look forward to in the next 15 years. These recommendations consider the population boom, and the growth of the American economic system in terms of gross national product. Let me point out just a few things that I think are extremely forceful: "In briefest summary, we see the makings of an enormous economic boom ahead. Fifty million more Americans waiting to be served, fed and satisfied by enterprise. The gross national product hitting the incredible total of $1.2 trillion measured in constant 1960 dollars. This is four times the amount of everything this nation produced, transported, and shot off on five continents at the peak of our war effort in 1942." The report goes on to say: "We also see major problems in providing the jobs, and therefore the incomes necessary to bring this boom to reality."

No matter what educational problem you approach today, you run headlong into social, economic, political, psychological conditions and influences that may well determine the success or failure of an educational program. To ignore the "facts of life" about these conditions and influences is almost suicidal. We see some present evidences of a kind of ignoring of economic and social facts of life in the great cities--problems in what has been described as social dynamite, a very important area for the educator to examine thoroughly. Our staff, along with people in the Department of Labor, are taking very searching looks at the "Watts" situation in other cities. There is a most interesting experiment going on in Chicago in an interagency work project, reaching down into neighborhoods, person by person, door to door, trying to identify needs and behavorial characteristics of people, many of whom have never seen anybody interested in their families for three generations. The educator obviously is going to have to be concerned with this kind of situation.

The great importance of interdisciplinary action in vocational education and guidance is brought home most forcefully in a statement of John Maynard Keynes' in his book "The General Theory of Employment Interest and Money." He wrote this back in 1935: "The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe (and I include vocational educators in this) themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist." That probably alarms vocational educators and the guidance people, too. It should probably greatly alarm the social scientists, too, because, if there is some substance to this, and I am inclined to believe there is, then the influence of the social scientists can be critical or pivotal on an educational program. An illustration of this may be found in the Harbison and Myers book, "Education, Manpower, and Economic Growth," which lists many references that argue against vocational education in secondary schools. Personally, I think the arguments are not very well justified in terms of social and economic conditions, but these two reputable economists think differently. Of course, they make their case and rightly so, but the educator, the vocational educator, and the guidance person are going to have to examine such theories very carefully before they become the slaves of something that could become defunct in a serious social situation in this country. This is an illustration to show how you can be influenced rightly or wrongly by the theories of good thinking social scientists.

In consideration of the objectives of the conference, we need to examine the status of guidance in vocational education, and to identify the problem areas. The matter of the status of vocational education, and of guidance in vocational education was examined by the panel of consultants that was brought about by President Kennedy's education message in 1961. The panel, as you know, produced the report, "Education in a Changing World of Work." The recommendations that came out of that report led to the enactment of the Vocational Education Act of 1963 and set the stage for many changes that are taking place in vocational education.

Very briefly, the principal thing about the new Act which has meaning for the seminar, has to do with the six purposes that are spelled out in that Act. They represent one approach to what we are calling a total balanced program of vocational education. The first of the six deals with programs for youth in high school. The number one purpose in the Vocational Education Act of 1963 sets up an important but somewhat controversial issue. Some economists contend that vocational education, as we have known it in the United States, has no place in the secondary schools.

The second of the six concerns vocational education for persons who have completed or left the high school, and who are available for full-time study in preparation for entering the labor market. This requires a type of post-high school or an area program that can accommodate the younger or older dropout from school as well as high school graduates. In my own view, one weakness of the education system in this country is the fact that a person could make the wrong choice, an inadvertent mistake, and suffer from it all of his life. I am sure many of you know of companions, friends or associates, who made the wrong decision somewhere--they dropped out of school prematurely, or they made the wrong choice of a career--and then suffered severe penalties for the rest of their lives. A total balanced program of education should permit a citizen, young or old, to correct his mistakes--at any time during his life--thus having recourse to a variety of educational services for personal readjustment when required.

The third of the six purposes is vocational education for those who have alredy entered the labor market and need training or retraining to update or upgrade their job skills.

The fourth of the six purposes has to do with the vocational education for persons who have academic, social, or other handicaps that prevent them from succeeding in regular vocational education programs. We were disappointed to find in our first survey of the distribution of expenditures under the new Act, that less than three percent of the money had been devoted in the states for programs for persons with special needs. Admittedly, to identify the needs of these people and assist them to find a program that suits their needs is a most difficult task. It is also extremely difficult to motivate these people to permit educational growth. Many are adults who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment. The Manpower Development and Training Act of 1962 and other federal legislation, also offers opportunities for this type of training.

The fifth of these purposes has to do with the construction of facilities--a "first" such use for vocational education federal funds. About 40 percent of last year's funds went into the construction of new facilities. These funds are bringing about dramatic developments in the building of a great variety of area vocational education facilities, such as: departments of comprehensive high schools; secondary vocational area schools; specialized vocational-technical high schools; technical institutes; post-secondary types of area schools; the junior and community colleges; and the four-year colleges and universities. The bottleneck of the lack of physical plant became acute when we began to implement the Manpower Development and Training Act of 1962. You would be amazed at the number of programs that must use facilties of all kinds--garages, abandoned school buildings, or whatever can be obtained. It is a fact that the program cannot move forward until there are some respectable facilities available for people to use and profit from bona fide, high quality training programs.

The last of these purposes which, incidentally, bears directly on guidance, has to do with what we call the ancillary services. This was designed by the Congress to assure quality in all vocational education programs--elements such as teacher training, supervision, program evaluation, special demonstration experimental programs at the State level, development of instructional materials, State administration and leadership, periodic evaluation of State and local vocational education programs, and studies dealing with information regarding current and projected manpower needs and job opportunities. There is a specific reference to vocational guidance services. In the "official" definition of vocational education in the new Act, vocational guidance is mentioned specifically as an important area to be financed with the grant funds that come to the States.

Another of the conference purposes has to do with stimulating interdisciplinary research interests. We have made noticeable progress in research in the last two years since the passage of the Act. Meaningful, substantial, and reliable research on real problems can now be carried out. This seminar should lead us to some problems in the field of guidance, and hopefully, attract the interest of the social scientist to help solve these problems is contained in one of the recommendations that has come out of the subcommittee of the President's Committee on Specialized Personnel. This distinguised subcommittee is made up of such men as Dr. Felix Robb of Peabody College and Ralph Boynton of the Bank of America. One of their many recommendations, with respect to vocational guidance, was how to bring what they call the "user," that is the potential employer, and the product of the public schools--the graduate or the dropout--closer together instead of relying on the counselor in this country to do this tremendous job that needs to be done. They are talking about a new kind of person, a coordinator who would work with the counselor in bringing the user closer together with the product of the public schools. They also recommend the establishment of a sophisticated center of occupational information in every State that would bring to the entire public school system a constant flow of labor market information, job requirements, and training opportunities. Obviously, these recommendations would require substantial financing and some real aggressive action in this country.

The matter of projecting long range needs and goals is one of the basic charges in the new Vocational Education Act of 1963. The programs that are to be designed and operated must be geared to potential job opportunities.

There is a growing interest in the benefit-cost analysis method of budgeting and planning. Very briefly, it tries to measure the benefit you want to accomplish in a program by putting a cost figure on it and by making a decision as to whether the benefit you identified is worth the cost, or whether you want to modify the benefit and change the cost. You attempt to measure objectives in terms of quantity and quality, and then put a price tag on them and proceed to try to reach these objectives. This is an approach to the matter of projecting long range needs and goals, and it is significantly identified as one of the conference objectives. If you want to address yourselves to something very pertinent in terms of guidance, you could try to take the benefit-cost approach. What is the long time goal of guidance in vocational education, and which objectives are realistic this year, next year, or five years from now; finally, compare them with conditions expected fifteen years from now by the American Institute of Research.

Another one of the objectives has to do with establishing policy and program guidelines. There is a tremendous educational training program being carried on by private industry and business. It runs into billions of dollars and far outreaches the financial magnitude of our programs. You could also go to the military, or the private schools of this country, and find a vast investment in these training programs. To the extent that we can, and keeping within the provisions of the Federal Act, we are establishing policies and program guidelines, which are based primarily on the statement of purpose in the Vocational Education Act.

Let me read this purpose to you: The purpose of this act, meaning Public Law 88-210, is to "authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State--those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training." That purpose was developed by a great number of people, including some very distinguished congressmen. If that part of the phrase that has to do with authorizing Federal grants, etc. and the States, was deleted and you just stated the remaining section as the basic purpose of vocational education, guidance and education in this country, you would have said it most eloquently.

Another objective of the conference has to do with coordinating and exchanging information, which could be wrapped up in the word communication--you could also add to that the dimension of coordination and cooperation. Interagency coordination and cooperation is very important to assure meaningful programs.

We are coming to a period now where we need to identify and train an entirely new brand of leadership. Those of you who are concerning yourselves with training new leadership should take a look at this need. The new leaders would be persons who are thoroughly familiar with all of the programs that are directed toward the Purpose that I just read, and would have a high degree of skill in applying the resources of those programs at the right place, the right time, and without confusing the recipient of the services. Recently, I was in Minnesota visiting one of three experimental programs we are conducting with the cooperation of 13 Federal agencies. Dr. John McCauley of the Department of Labor and I are co-chairmen of these three experimental projects. We call them "concerted services training projects." The whole idea of this experiment is to try to demonstrate that without any new money or authority, we can coordinate the resources of 13 agencies to meet the needs of the people of the three counties--one in New Mexico, one in Arkansas, and one in Minnesota. The three local county administrators of these programs have entirely different backgrounds of experience and professional training. It will be interesting to measure the results of close coordination of these many programs and agencies. These projects are examples of what we are going to have to look forward to in the development of a whole new kind of leadership, particularly in vocational education and guidance.

Next, I mention the need to reduce the time lag between research, theory, and practice. The Division of Adult and Vocational Research in the Office of Education has a technical advisory committee made up of persons from industry, labor, education, and research. This committee is vitally concerned about disseminating and applying research results at the operation level. You know very well it doesn't do a bit of good to conduct research which is never used. Obviously, this objective has the utmost importance in this seminar.

The examination of change and what we call systems approach to vocational education would be helpful at this point. A little publication here at The University, the SEC Newsletter on the conference on Strategy for Educational Change, contains the following observations about change: paraphrasing Dr. Kurt Lewin description of "Theoretical Formulations for Change." The first phase is "unfreeze." The second is "move," and the third is "refreeze." He bases these theoretical formulations on the assumption that people change to improve their present position or to avoid a worse condition. He says the unfreezing involves a kind of dissatisfaction with the present. No one should have any trouble coming to that point. Movement to a new condition is achieved by inducement or reward. Refreezing involves the establishment of an equilibrium after a new level of behavior has been reached.

Perhaps, still more applicable to us is Dr. Philo T. Farnsworth's application model of education to bring about change. "First, recognize and articulate the need." I presume this seminar is going to address itself to that. Secondly, "propose a solution." This seminar will not have carried out its work if it can't propose some solutions to our problems. "Third, create an interest in the suggested solution." "The fourth is to demonstrate the usefulness of the program." We either have it, and it is demonstrated successfully, or we ought to set it up, and demonstrate it. "Fifth, invite group and public interest in the program." I'm quite sure we have not been successful in generating public interest in vocational guidance. At the same time, it certainly is becoming evident that many people are identifying the guidance problem as the "key" problem of education and vocational education in this country. If you know the history of vocational education, you will identify these steps that have been enumerated. One of the most important steps is the "sixth one, which is obtaining official approval and financing." "The seventh step is taking action to remove legal restrictions." We have some legal restrictions appearing already in the Vocational Education Act, and one of them of great importance is the absence of a provision for stipends in the research program. There will be efforts made to seek an amendment which removes this inhibiting legal restriction to the implementation of research programs and leadership development.

Closely correllated with change are the results of using the systems approach. What we see developing in vocational education across the country is what you might call an over-simplified systems approach to vocational education. This system starts something like this. You begin with all applicable Federal and State legislation. This includes all the Federal and State laws, local provisions for programs, appropriations--all legal authority to move ahead. The second step is the matter of the development of regulations, policies, procedures, guidelines at all levels--Federal, State, and local, and, hopefully, very well coordinated. The third step, in vocational education particularly, but in many other programs too, is the State plan. It is simply a basic contract which sets forth the conditions under which a State will conduct a program.

The next item in the system is dynamic and dramatic, which we call the projected activities program. Each State is required to submit to us an explanation of what they propose to do in the next year with the funds they have--Federal, State, and local. They are to give an explanation and justification of this proposed program. A State does not get any money--this is part of the system--until its projected activities program is thoroughly reviewed and approved. This is a cooperative venture between the State and the Nation in trying to bring about the maximum use of the dollar. The next step in this system is reporting, primarily involving the submission of annual statistical, financial, and descriptive reports. The reports which have come in for the first year of the new Act, the fiscal year 1965, are being reviewed very carefully.

The projections for 1967, incidentally, will be due May 15. Each State, through these vehicles will say what it proposes to do in the fiscal year 1967. Here you have the beginning of the feedback into the system. In addition, the evaluation which I have already mentioned should be a very valuable feedback into this system. A similar effort will be made to measure what is not being done, or rather who is not being served, why, where are they, who are they, etc. That will be a very significant aspect of the feedback. Of course, the research program is really a kind of wrap up in the system because the research program should be operating continuously to feed back its results into the whole system. If the system is working properly, it should result in a constantly improved and expanded program. That is an over-simplification of what we call a systems approach in vocational education, and I commend it to the guidance people for similar use.

Finally, we need to be concerned with these challenges. I ask myself and you, "Can we in our American society, in fact, provide education for all the children of all the people?" We have expounded this philosophy ever since I have known anything about education. We have professed to be committed to an educational program that will educate all the children of all the people. I say the challenge is, "Can we in fact provide education for all the children of all the people, or is that just some kind of a trite statement of purpose and some kind of far off dream?"

Furthermore, "Can we attain in a practical way, and in a democratic manner, the goal of developing all persons to their maximum potential ability?" We profess to do this; we profess to be committed to it. Again, the serious question and challenge is--can we, in fact, attain such a goal?

The next challenge is one we have read and heard of for many years--I know the guidance people will be familiar with it--"Can we, in fact, match people with jobs in a democratic way in this country?" Can we match people with jobs in the framework of freedom of choice?

Next, "Can we provide appropriate education and training for all persons who need it and can profit by it?" This is a commitment of vocational education. We profess to offer training opportunities for all persons who need it and can profit by it. Can we do that in fact?

Then looking to the manpower needs of the country, "Can we provide education and training for all kinds of jobs, from the least skilled to the most technical and professionally demanding?"

The last challenging question--"Can we, in fact, provide appropriate education and training in all kinds of institutions in this country, both public and private, and stop the either-or argument that constantly goes on?" These are the charges, the challenges, the responsibilities that the public of this country is expecting us to carry out in education and vocational education programs today.

OVERVIEW OF RESEARCH AND DEVELOPMENT ACTIVITIES
DIVISION OF ADULT AND VOCATIONAL RESEARCH
U.S. OFFICE OF EDUCATION

Duane M. Nielsen, Director
Educational Resources Development Branch

I welcome this opportunity to meet with you here this week. May I extend to you the greetings of our Washington staff and assure you of our appreciation for your interest in vocational and technical education and your willingness to participate in this timely and important conference.

We are midway in what will surely be the most dynamic decade in the history of vocational and technical education in this country. It will either be dynamic in our ability to successfully identify and confront the challenges and problems which we face, or more dramatically in our failure to do so. This conference is focused on a segment of these challenges, problems and opportunities. That is why you are here and why you will participate actively. It is why you will go home and translate the ideas discussed, concepts developed and procedures identified into effective vocational guidance programs. We wish you success in this conference and in your individual efforts in the interest of vocational and technical education. You are the keys to action. We urge you to accept this responsibility in your participation here this week and in your subsequent activities.

I have divided this overview of our research and development activities into four categories. First, I have been asked to discuss the July 1 reorganization of the Office of Education and our current organizational structure. Second, I will give you a progress report on the fiscal 1965 activities of our division operated under Section 4 (c) of P.L. 88-210, the Vocational Education Act of 1963. Third, I would like to suggest some priority areas for research and development concentration. Fourth, I will review the guidance and counseling projects currently supported by our program.

Reorganization

When the Department of Education was created by Congress in 1867, the new government unit was authorized to have a Commissioner of Education and three clerks. Total budget: $9,400 a year. Ninety-three years later -- in 1960 -- the Office of Education had 1,100 employees and was running 20 separate education programs with annual expenditures of $500,000,000. Today, the Office of Education is handling more than 40 education programs with more than $3,300,000,000 authorized. It has 1,600 employees.

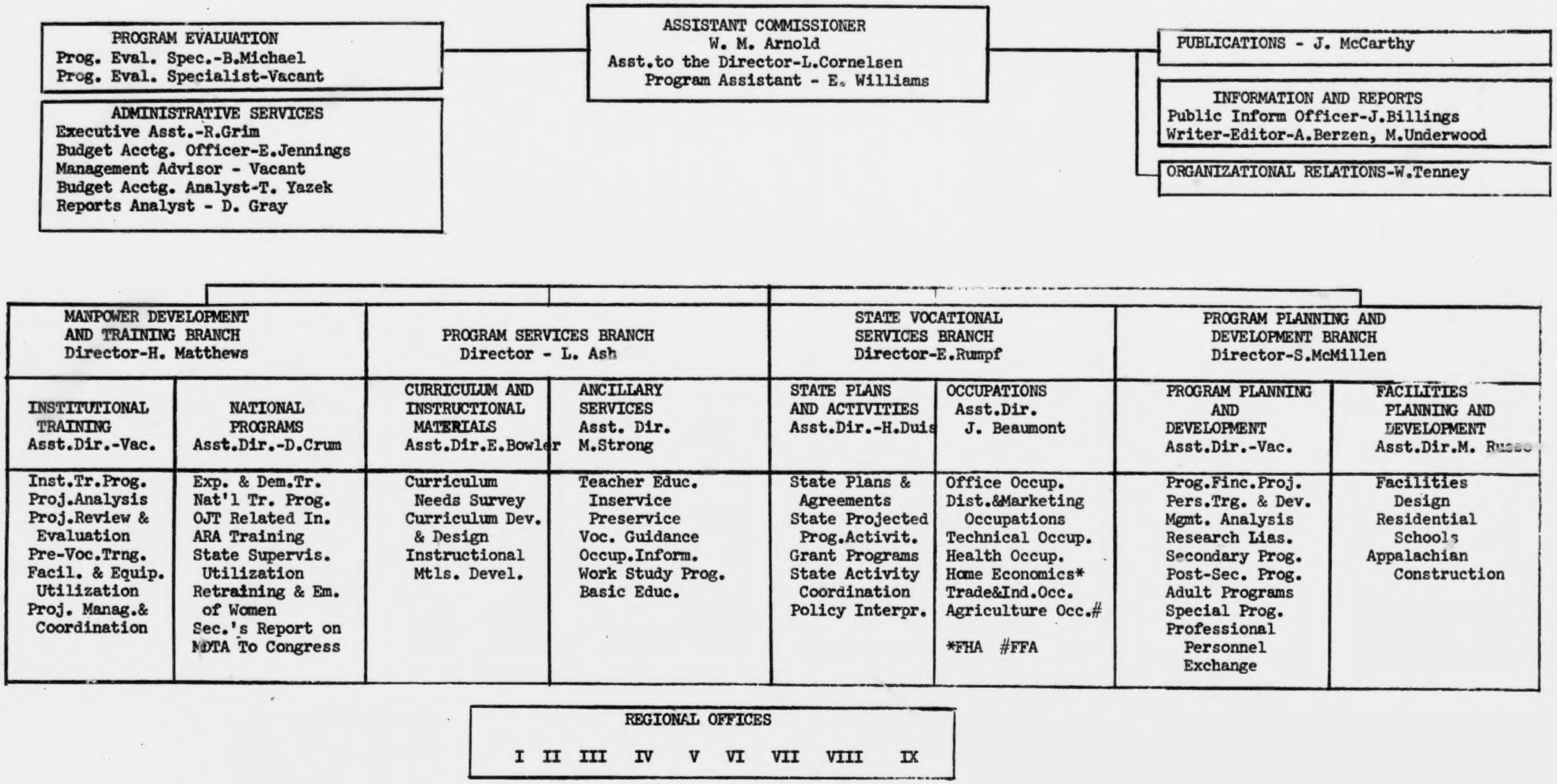
The statistics demonstrate the obvious. Education has finally come into its own. It is not growing -- it is exploding. Congress has given the U.S. Office of Education major responsibilities for carrying out programs to improve American education.

Early in 1965, the President of the United States -- at the request of HEW Secretary Celebrezze -- appointed a special Task Force "to advise and assist the Office of Education meet its new program responsibilities." The Task Force, headed by Dwight Ink of the Atomic Commission, included members of both the Bureau of the Budget and the Civil Service Commission.

For three months, the Ink group probed, questioned, investigated, and evaluated. On June 14, 1965, the Task Force completed its work. Four days later, Secretary Celebrezze submitted the Task Force's recommendations to the President and the Cabinet. The Task Force concluded that the Office of Education had become "fragmented and unduly layered" by a patchwork of organizational units created for each new education law -- sometimes for each new title of a law. A reorganization was necessary. But the neat little boxes were only part of the story.

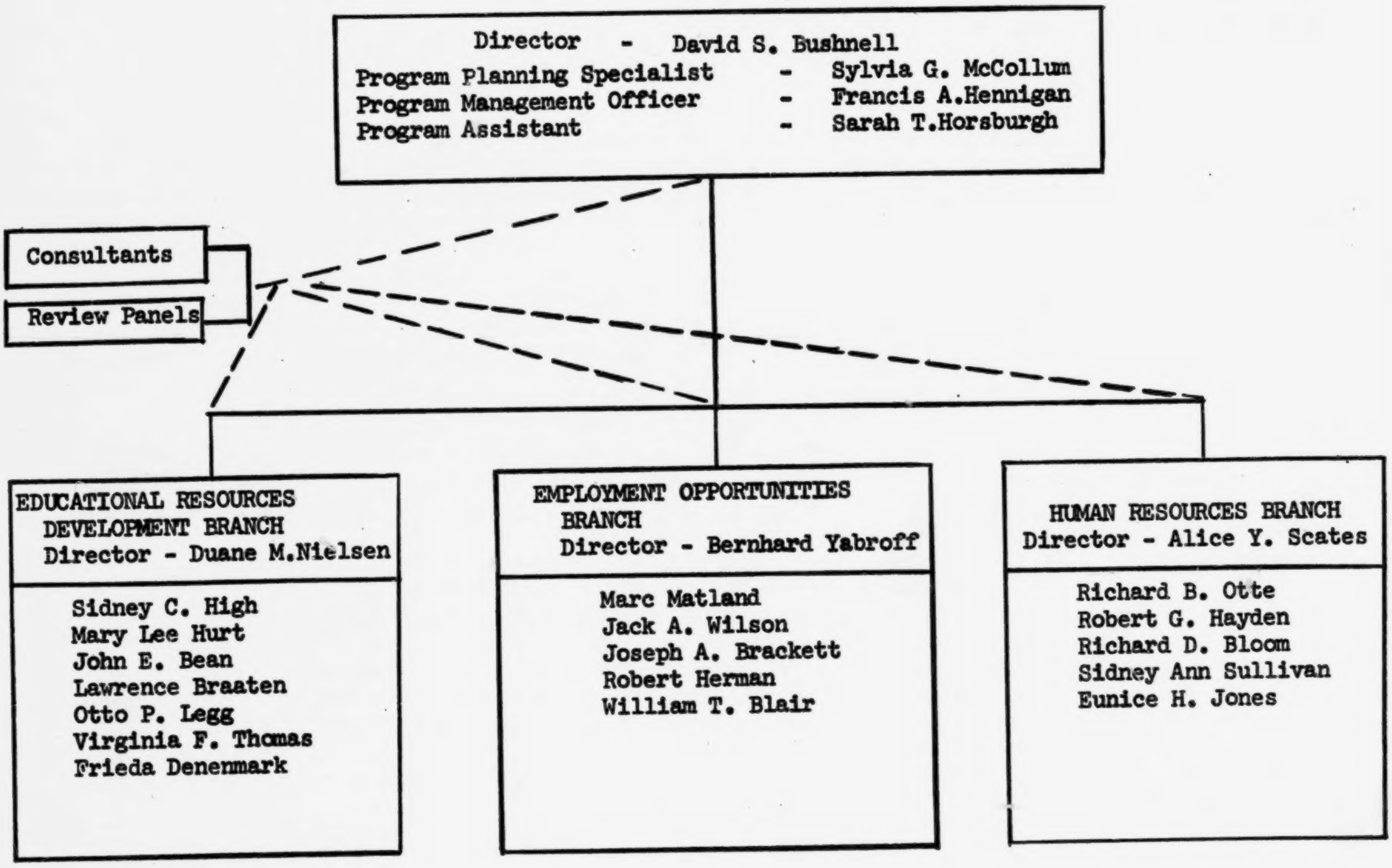
The Ink group singled out a most important element in revamping the Office of Education -- new blood. First priority, said the Task Force, is to recruit new personnel. It urged that competent personnel from disciplines other than professional education be carefully considered for service in the Office of Education. It called for an Ad Hoc committee under the Deputy Commissioner to identify vacancies, review applications, and set up recruiting teams. It asked for hard-hitting recruiting efforts at both professional and clerical levels.

DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION


ASSISTANT COMMISSIONER
W. M. Arnold
Asst.to the Director-L.Cornelsen
Program Assistant - E. Williams
PROGRAM EVALUATION
Prog. Eval. Spec.-B.Michael
Prog. Eval. Specialist-Vacant
ADMINISTRATIVE SERVICES
Executive Asst.-R.Grim
Budget Acctg. Officer-E.Jennings
Management Advisor - Vacant
Budget Acctg. Analyst-T. Yazek
Reports Analyst - D. Gray
PUBLICATIONS - J. McCarthy
INFORMATION AND REPORTS
Public Inform Officer-J.Billings
Writer-Editor-A.Berzen, M.Underwood
ORGANIZATIONAL RELATIONS-W.Tenney
MANPOWER DEVELOPMENT AND TRAINING BRANCH
Director-H. Matthews
INSTITUTIONAL TRAINING
Asst.Dir.-Vac.
Inst.Tr.Prog.
Proj.Analysis
Proj.Review & Evaluation
Pre-Voc.Trng.
Facil. & Equip. Utilization
Proj. Manag.& Coordination
NATIONAL PROGRAMS
Asst.Dir.-D.Crum
Exp. & Dem.Tr.
Nat'l Tr. Prog.
OJT Related In.
ARA Training
State Supervis. Utilization
Retraining & Em. of Women
Sec.'s Report on MDTA To Congress
PROGRAM SERVICES BRANCH
Director - L. Ash
CURRICULUM AND INSTRUCTIONAL MATERIALS
Asst.Dir.E.Bowler
Curriculum Needs Survey
Curriculum Dev. & Design
Instructional Mtls. Devel.
ANCILLARY SERVICES
Asst. Dir.
M.Strong
Teacher Educ.
Inservice
Preservice
Voc. Guidance
Occup.Inform.
Work Study Prog.
Basic Educ.
STATE VOCATIONAL SERVICES BRANCH
Director-E.Rumpf
STATE PLANS AND ACTIVITIES
Asst.Dir.-H.Duis
State Plans & Agreements
State Projected Prog.Activit.
Grant Programs
State Activity Coordination
Policy Interpr.
OCCUPATIONS
Asst.Dir.
J. Beaumont
Office Occup.
Dist.&Marketing Occupations
Technical Occup.
Health Occup.
Home Economics*
Trade&Ind.Occ.
Agriculture Occ.#
*FHA #FFA
PROGRAM PLANNING AND DEVELOPMENT BRANCH
Director-S.McMillen
PROGRAM PLANNING AND DEVELOPMENT
Asst.Dir.-Vac.
Prog.Finc.Proj.
Pers.Trg. & Dev.
Mgmt. Analysis
Research Lias.
Secondary Prog.
Post-Sec. Prog.
Adult Programs
Special Prog.
Professional Personnel Exchange
FACILITIES PLANNING AND DEVELOPMENT
Asst.Dir.M. Ru
Facilities Design
Residential Schools
Appalachian Construction
REGIONAL OFFICES
I II III IV V VI VII VIII IX

TRANSPARENCY 1. DVTE Organizational Structure
Effective July 1, 1965

DIVISION OF ADULT AND VOCATIONAL RESEARCH


Director - David S. Bushnell
Program Planning Specialist - Sylvia G. McCollum
Program Management Officer - Francis A.Hennigan
Program Assistant - Sarah T.Horsburgh
Consultants
Review Panels
EDUCATIONAL RESOURCES DEVELOPMENT BRANCH
Director - Duane M.Nielsen
Sidney C. High
Mary Lee Hurt
John E. Bean
Lawrence Braaten
Otto P. Legg
Virginia F. Thomas
Frieda Denenmark
EMPLOYMENT OPPORTUNITIES BRANCH
Director - Bernhard Yabroff
Marc Matland
Jack A. Wilson
Joseph A. Brackett
Robert Herman
William T. Blair
HUMAN RESOURCES BRANCH
Director - Alice Y. Scates
Richard B. Otte
Robert G. Hayden
Richard D. Bloom
Sidney Ann Sullivan
Eunice H. Jones

TRANSPARENCY 2. DAVR Organizational Structure Effective July 1, 1965

As the Ink proposals were carried into effect, the Office of Education prepared for orderly chaos. Eight hundred new personnel had to be hired -- including many top-level super-graders. Personnel from defunct bureaus had to be reassigned. Additional office space had to be found in buildings outside 400 Maryland Avenue. The Bureau of Higher Education, for example, went from 187 to 336 positions. Entire bureaus were moved physically to new locations. Other bureaus merely evaporated.

The major reorganization and adjustment involving the vocational and technical education research and development program, and the administration of Section 4(c) of P.L. 88-210, is that we were formerly the Occupational Research and Planning Program (ORP) in the Division of Vocational and Technical Education (DVTE). We are now the Division of Adult and Vocational Research (DAVR) in the new Bureau of Research (BR) as shown in the DVTE structure after reorganization in Transparency 1; additional DAVR organizational and staffing detail is given in Transparency 2.

Specific procedures have been implemented to assure close coordination and communication between DAVR and DVTE. This is essential if research and development and program operation are to render effective service. Joint staff meetings, committees, project and program review are parts of this effort. There are definite advantages to DAVR and the other OE research programs being centralized in the new Bureau of Research. Uniform procedures and a coordinated concentration on research and development priorities in education should result in increased program efficiency. One combined policies and procedures document for the Bureau of Research has been prepared. All proposals should be sent to the Bureau of Research, U.S. Office of Education, where they will be assigned to the appropriate Division for processing.

FY 1965 PROGRESS REPORT

On June 30, 1965, the Occupational Research and Planning Program (DAVR since July 1) completed its first year of activity. Although the program had been in operation slightly less than nine months the response was impressive. In summary:

- 475 proposals were received, almost double our January 1965 estimate. Assuming that each proposal represents five man days of effort by those in the research community on vocational problems, the program generated 2,400 man days of effort at no expense to the Government.
- 146 proposals or 31 percent of the total received were approved by the Commissioner and all will become firm contracts within the next few weeks.
- The total appropriation of $11.85 million for fiscal year 1965 was expended.

The distributions of projects approved during fiscal 1965 are shown in the next four transparencies. A brief examination of these distributions provides an overview of the scope and diversity of program activity. Transparency 3 indicates the distribution of approved projects by areas of major impact.

TRANSPARENCY 3. DISTRIBUTION OF APPROVED VOCATIONAL RESEARCH AND DEVELOPMENT PROJECTS BY AREAS OF MAJOR IMPACT, FY 1965 (N:147)

Job Analysis	6	4%
Testing and Evaluation	6	4%
Curriculum	13	9%
School Organization, Administration, and Special Programs	7	5%
Methods, Material, Media	7	5%
Teacher Education and Training	22	16%

Individual and Social Characteristics	14	10%
Career Choice	5	3%
Guidance and Counseling	8	5%
Special Groups (Drop-outs, Adults, Disadvantaged, and Slow Learners)	19	13%
Research and Development Planning and Administration	40	26%

Classification of the project into areas of major impact yielded a 16 percent distribution of approved projects for teacher education and training, 13 percent for immediate vocational needs of dropouts, adults, disadvantaged and slow learners; 26 percent for the training and support of research personnel, and the rest scattered among the other eight classifications. The planning and administration area includes two vocational research centers, 24 State Vocational Research Coordinating Units, and several small projects aimed at improving research management. A high multiplier effect from these projects is expected and reflects a sound first-year investment in program growth potential. The number indicated for guidance and counseling does not include several projects which have some relevancy to this area. These and others approved during fiscal 1966 will be discussed later in this presentation. There is a reasonably good distribution of projects covering topics stressed during FY '65, e.g. identification of emerging job opportunities, optimum location of vocational schools, evaluation of teacher certification requirements, in-service training for vocational teachers, and the improvement and expansion of State vocational education planning organizational and administrative capabilities. We are also supporting or participating in a number of projects concerned with exploiting new information handling techniques through computer-assisted instruction, and electronic data processing of information on the statistics of the vocational system and on research activities completed or in process. Application of systems analysis and operation research techniques to major vocational problems is also being attempted.

The distributions by branch, submitting institution and type of project are given in Transparency 4.

TRANSPARENCY 4. DISTRIBUTION OF APPROVED VOCATIONAL RESEARCH AND DEVELOPMENT PROJECTS BY BRANCH SUBMITTING INSTITUTION AND TYPS,FY 1965.

BRANCH N:147			SUBMITTING INSTITUTION (N:147)				TYPE (N:147)				
EO	HRD	ERD	College or University	State Education Department	Local Education Agency	Private Organization	Res.	E-D-P	Tag.	C	RCU
13	36	98	105	25	7	10	46	42	33	2	24
9%	24%	67%	72%	16%	5%	7%	32%	29%	22%	1%	16%

BRANCH

EO - Employment Opportunities
HRD - Human Resources Development
ERD - Educational Resources Development

TYPE

Res.	Research
E-D-P	Experimental, Development, and Pilot
Tag.	Training
C	Center
RCU	Research Coordinating Unit

The distribution by Branch shows 67 percent of the projects falling under Educational Resources and Development, 24 percent under Human Resources Development, and 9 percent under Employment Opportunities. The high percentage in Educational Resources is consistent with the relatively heavy emphasis noted above on training programs and on demonstration projects.

The problem of attracting competent behavioral scientists to work on vocational aspects of human resources development, and competent economists to undertake occupational research projects has delayed the response in these two areas. The situation is improving, but for the next few years we will be in competition with other research and development programs for behavioral and social science research talent.

A substantial number of approved projects - 72 percent - went to colleges and universities. These statistics can be misleading, however, because many university projects were undertaken on behalf of State and local school systems.

A better balance was achieved in the distribution of types of projects. Thirty-two percent was for research, 29 percent for experimental, developmental and pilot programs, 22 percent for training, and 17 percent for research centers and State Coordinating Units. The relatively large proportion of experimental and training projects should yield early and visible results and thereby make immediate contributions to an improved vocational system.

The geographical distribution shown in Transparency 5 reflects a concentration of projects in California, Illinois, Michigan, New York, and Pennsylvania, with 57 percent of the total number in these five States. Only 13 States show no approved projects during fiscal 1965.

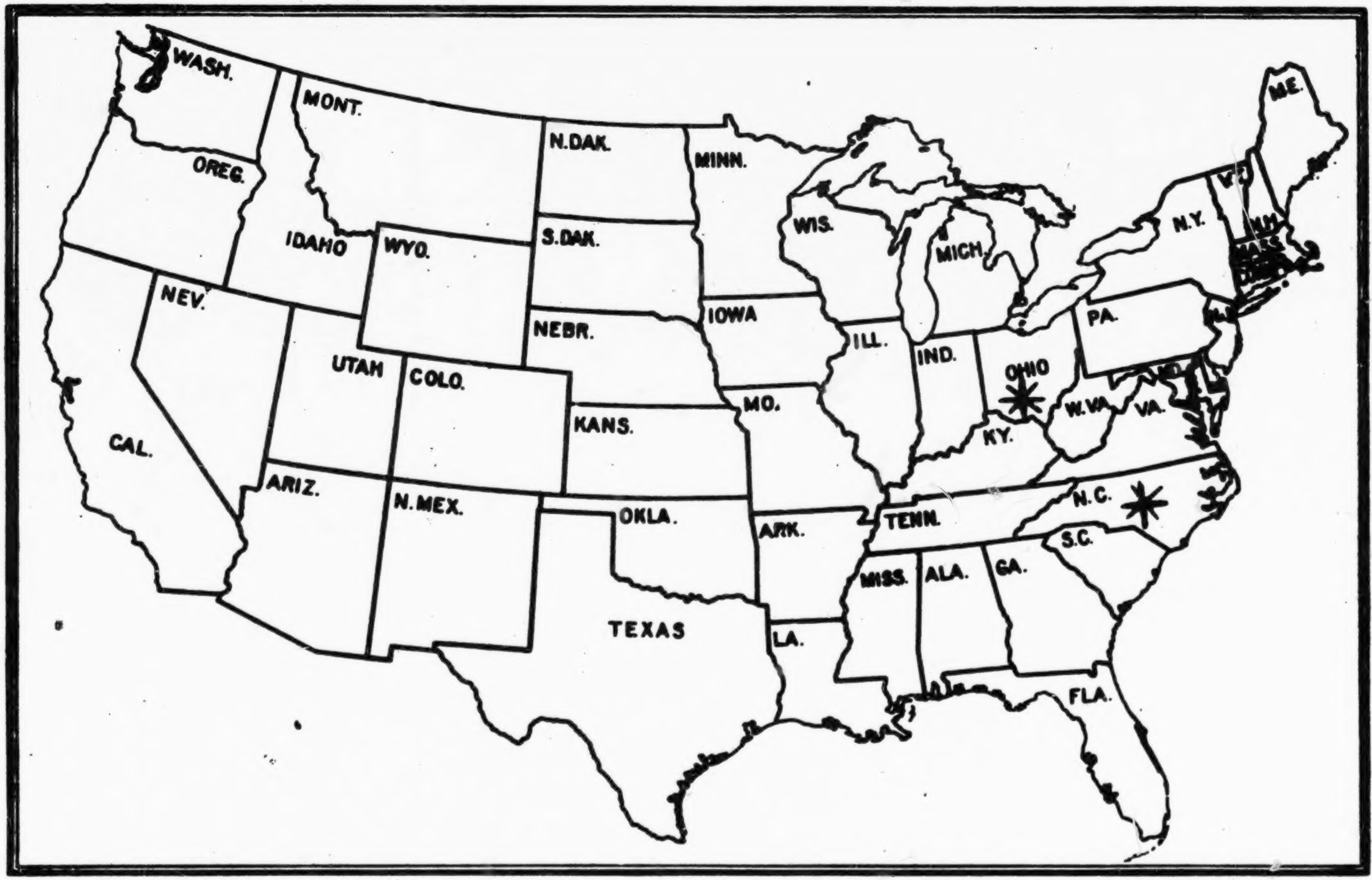
TRANSPARENCY 5. DISTRIBUTION OF APPROVED VOCATIONAL RESEARCH AND DEVELOPMENT PROJECTS BY STATES, FY 1965. (N:147)

Alabama	0
Alaska	0
Arizona	1
Arkansas	2
California	16
Colorado	5
Connecticut	2
Delaware	1
District of Columbia	4
Florida	7
Georgia	2
Hawaii	0
Idaho	2
Illinois	11
Indiana	0
Iowa	4
Kansas	1
Kentucky	3
Louisiana	1
Maine	0
Maryland	3
Massachusetts	5
Michigan	9
Minnesota	3
Mississippi	1
Missouri	2
Montana	1
Nebraska	2
Nevada	0
New Hampshire	0
New Jersey	3
New Mexico	1
New York	12
North Carolina	2
North Dakota	1
Ohio	5
Oklahoma	7
Oregon	4
Pennsylvania	9
Rhode Island	1
South Carolina	1
South Dakota	0
Tennessee	0
Texas	3
Utah	1
Vermont	0
Virginia	0
Washington	2
West Virginia	0
Wisconsin	7
Wyoming	0

Location of the two research and development centers, the five research and development units and the 24 State research coordinating units is shown in Transparencies 6, 7, and 8. These concentrations of resources for specialized purposes have proven to be quite productive. Those States without research and development units will be invited to submit proposals this spring for the establishment of RCU's.

Transparency 6

LOCATION OF THE TWO RESEARCH AND DEVELOPMENT CENTERS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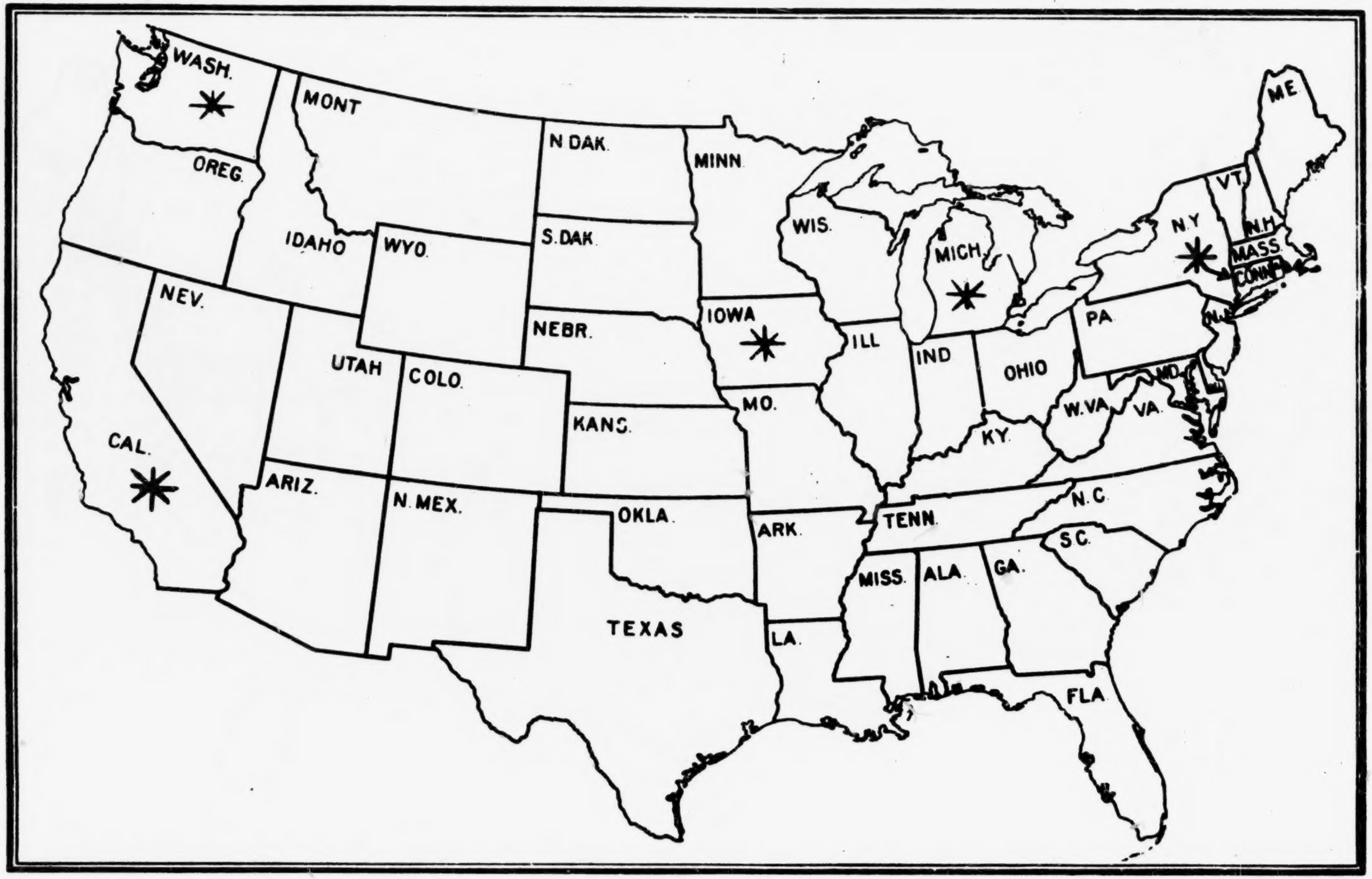
Transparency 7

LOCATION OF THE FIVE RESEARCH AND DEVELOPMENT UNITS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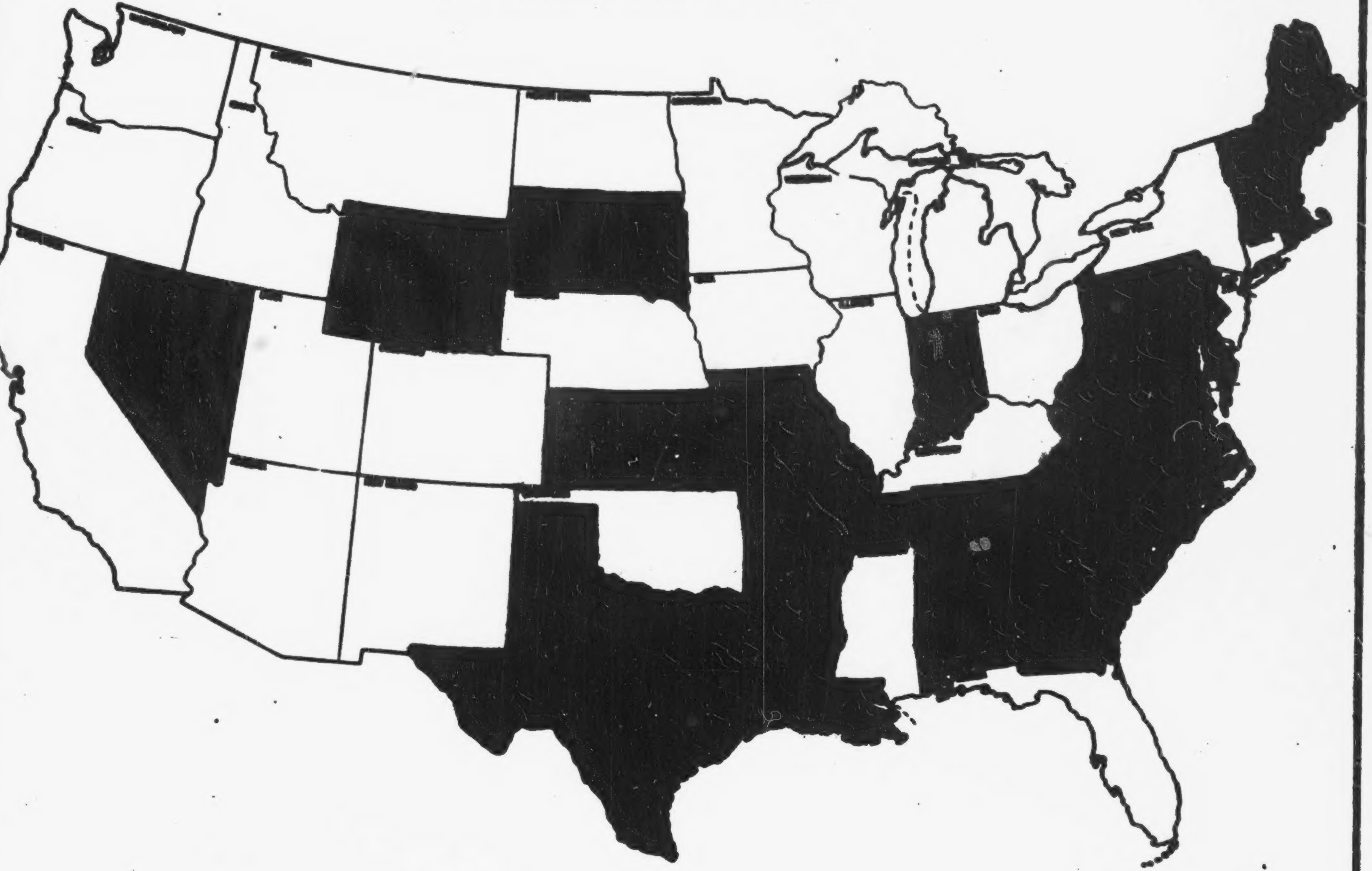
VA.
W.VA.
MD.
PA.
N.J.
N.Y.
VT.
N.H.
MASS.
CONN.
ME

Transparency 8

LOCATION OF THE 24 STATE RESEARCH COORDINATING UNITS

(The States in white have RCU's)



Overall, the statistics indicate program activity at a much higher level than we expected. Where imbalances existed, adjustments have been sought through active solicitation and sponsorship of needed studies. We expect to do more of this as our professional staff expands.

The Conditions and Procedures and the Federal Regulations governing the submission and handling of proposals and the administration of contracts were first issued in November 1964. Over 15,000 copies have been distributed throughout the educational and research communities. In March, supplementary Conditions and Procedures were issued for submitting proposals on vocational research centers, and in April for proposals on State research coordinating units.

A Preliminary Statement of Guidelines for the Occupational Research and Planning Program was issued simultaneously with the Conditions and Procedures. This statement of program objectives and research priorities reinforced the more legalistic program documents and enabled us to announce our presence and state our program interests to the public. More then 15,000 copies have been distributed.

Every available opportunity has been followed up to initiate meetings with other Federal agencies, professional societies, foundations, and business organizations having an actual or potential role in vocational research. At the annual conventions of the American Vocational Association, the American Educational Research Association, and the American Psychological Association, the new program was presented to large and receptive audiences. Presentations were also made at nine regional conferences, conducted in January and February by the Division of Vocational and Technical Education for State Directors of Vocational Education and their staffs.

Modest efforts were made in the dissemination of research results. Lines of communication have been established with State Directors of Vocational Education and State Department of Education Research staffs through the distribution of periodical listings and abstracts of proposals received and funded. Arrangements have also been made to furnish information regularly to research journals and newsletters.

Directors of Centers and State Research Coordinating Units will become an integral part of this dissemination and communication function.

The reorganization of the Office of Education should help us to improve this vital function. The Division of Research Dissemination and Training in the Bureau of Research will, among other things, make available an Electronic Data Processing System for the storage, retrieval, and dissemination of research information.

Closely related to stimulation and dissemination efforts is the provision of consultative services to prospective sponsors of proposals. These services range from expressing an opinion on the relative merits of a budding concept to lengthy and involved meetings and exchanges of correspondence on the actual development and drafting of a formal proposal. These services provide a rich area for both teaching and receiving instruction on research and development design and methods; they probably provide the most severe tests of the professional skills and attitudes of the program research staff. We have not been able, of course, to accommodate all requests. In recognition of this problem, we have indirectly expanded our consultative capabilities by funding the two vocational research centers and 24 State research coordinating units. In addition, the series of intensive seminars was conducted at four major universities for vocational researchers on research objectives and proposals preparation procedures and methods. We intend to continue to expand support for this type of activity. Six additional research seminars will be conducted this spring.

The earlier mentioned preponderance of university sponsors of projects in fiscal year 1965 emphasizes the need to improve the research capabilities of State and local educational agencies. Most of the efforts discussed above point in this direction. The lack of response on the part of State and local school districts is often not so much a shortage of available research talent as a need for training professionally qualified persons in the mechanics of preparing proposals. The creation of the new Bureau of Research gives the Office of Education an excellent opportunity to revamp and simplify its research application and funding procedures.

Considerable effort has been made to develop and maintain close relationships with other Government agencies. An immediate concern is with working out effective operating relationships between the Division of Vocational and Technical Education and the Division of Adult and Vocational Research, and with the four other Divisions in the new Bureau of Research: Division of Research Training and Dissemination: Division of Elementary and Secondary Research; Division of Higher Education Research; and Division of Laboratories and Research Development.

We have, of course, considerable experience in working with the Division of Vocational and Technical Education, and the legislative mandate in the 1963 Act enables us to concentrate on providing research and development support to its programs. The disadvantages of organizational separation between the research and operating programs should be offset by the ability of the Division of Adult and Vocational Research to focus all applicable program resources of the Bureau of Research on the needs of the vocational system. For example, the Division of Research Training and Dissemination and the Division of Laboratories and Research Development offer new and promising support potential.

We are also engaged in efforts to define the vocational implications of the research provisions of the 1965 Elementary and Secondary Education Act, and have been active in developing methods of funding comprehensive projects from the resources of several other statutory programs.

In improving our coordination with other Federal agencies, we have concentrated principally with the Office of Manpower, Automation and Training of the Labor Department, and the Office of Economic Opportunity. With OMAT we have developed a good division of labor on complementary research and development areas of emphasis. We are working out joint support arrangements for vocationally oriented projects involving the Office of Economic Opportunities and the Office of Education. During the current fiscal year we plan to strengthen program contacts with the Departments of Agriculture and Commerce, and with agencies such as Defense and NASA which also make major investments in manpower research and training.

PRIORITY AREAS FOR RESEARCH AND DEVELOPMENT CONCENTRATION

Seven areas of special emphasis have been selected by DAVR for priority attention during 1966-1967. These areas are indicated on Transparency 9. I will discuss these priority areas in terms of their application to vocational and technical education in general, however, the implications for guidance and counseling are obvious, particularly in priority seven.

TRANSPARENCY 9 PRIORITY AREAS FOR 1966 AND 1967

1. Program Evaluation
2. Curriculum Experimentation and Development
3. Personal and Social Significance of Work
4. Personnel Recruitment and Development
5. Program Organization and Administration
6. Adult Education
7. Occupational and Other Manpower Information and Career Choice Processes

1. Program Evaluation

The Vocational Education Act of 1963 requires that a report evaluating Federally supported programs in vocational education be presented to the President and the Congress not later than January 1, 1968. Research projects designed to contribute to this evaluation have a high priority since they must necessarily be completed well in advance of the January 1, 1968, date. Research will be directed to the following specific problem areas:

(1) Determining the effectiveness of new vocational education programs supported by Federal funds under the 1963 Act with reference to career patterns, employment records, and incomes of graduates and non-graduates; the amounts and kinds of vocational and on-the-job training considered necessary by employers; high school dropout rates; and other measurable factors relating to the success or lack of success of participants in such programs. Particular attention will be focused on the intergovernmental fiscal relations aspect of vocational education; e.g., the extent to which matching funds for new programs represent new resources devoted to vocational education.

(2) Comparative studies of alternative methods of preparing individuals for work and economic evaluation of training programs in particular occupational fields. Studies which seek to determine the relative effectiveness and relative costs of the many ways young people are prepared for work and the ways in which experienced workers acquire additional training will be actively pursued.

(3) The impact of vocational education on job changes (among areas, occupations, and industries) and other aspects of economic resources mobility will be carefully considered.

2. Curriculum Experimentation and Development

The basic objective of this area of concentration has been to stimulate a critical examination of present educational practices in vocational and adult education, particularly those that relate to the teaching of disadvantaged youth and to encourage and support research and development projects in curriculum and teaching of new and emerging occupational skills. Among the highest priority items in vocational education is the need to identify the knowledge and skills required to qualify for a cluster of rapidly developing occupational opportunities. The establishment of new configurations of vocational programs which will concentrate on groupings of related occupations, such as the health services or agriculture services occupations, will be explored. The best developing instructional resources, media, and ficilities will be applied in the development of these new skills. Recent innovations in simulation training and computer based instruction, particularly those pioneered by NASA and the Armed Forces, will be explored for their relevance to vocational education. Experiences gained at the Job Corps Centers and MDTA programs will be evaluated and emulated where applicable.

The Division will be interested in curriculum proposals which examine, experiment with, and offer well articulated programs at various grade levels below that of professional, including the specification of teaching methods, and materials in the following occupational fields:

(1) Health services occupations
(2) Engineering-technician occupations
(3) Recreational occupations
(4) Ornamental horticulture and agriculture services occupations
(5) Building maintenance
(6) Public service occupations
(7) Social welfare occupations
(8) Office occupations

In addition, studies which evaluate these and other curriculum offerings and curriculum materials are desired. The principal purpose will be to identify the relative effectiveness of different methods of teaching and the best combination of practices and materials in preparing people for newly emerging job opportunities.

Research and experimentation will also be focused on new administrative structures and organizational patterns for establishing and carrying out new occupational training and adult education programs. This should include consideration of new and improved methods of teacher utilization and the application of educational technology to the needs of adult and vocational education.

3. Personal and Social Significance of Work

The concept of work as a major factor in adult life is central in our society. From his work the individual derives not only his income but also many of his personal satisfactions and his status in the social groups with which he has contact. In order to prepare him for his role as an employed adult and to help him continue to grow both as an individual and as a member of society, it is necessary for us to increase our understanding of how a person forms his concepts of work. We need to know more about the kinds of things which motivate him in various work-related situations and the ways in which he derives his satisfaction from them. Knowledge about a person's aspirations and their relationship to his abilities are vital in providing counseling and guidance. The place of different kinds of work in the individual's value structure and also in the value structure of various social groups is of major importance in his choice of an occupation. The interaction of his work and his self-concept throughout the various life-stages of adolescence through maturity must be considered in preparing the person for work entry as well as continuing education and training.

Understanding the worker as an individual and as a member of society is crucial in planning his education and evaluating his performance. Research in terms of the non-college bound will be encouraged in all of the areas mentioned above, and development projects which utilize such knowledge for purposes of counseling or designing better educational programs will be considered.

4. Personnel Recruitment and Development

Accelerated technological change, space research and development, a rapid expansion of the service industries, and an expanded vocational education program at the secondary and post-secondary levels has increased the demand for vocational teachers. New area vocational schools are being built. Many high schools and community colleges are adding vocational courses. To keep pace, it is imperative that high priority be accorded to the recruitment and development of competent vocational and adult education personnel; thus the goal of this fourth area is to assist in the development of an adequate supply of the types of personnel needed to staff new programs of vocational and adult education and to develop procedures to permit the upgrading of present personnel.

Studies are needed which relate to the determination of the numbers, qualifications, and sources of people needed to meet the staffing requirements of current and projected adult and vocational programs.

Research is needed to determine what vocational teachers should be taught and how teacher preparation programs should be organized at our Nation's colleges and universities.

The development of experimental programs for training new and current personnel are required. This should include the training not only of vocational teachers and counselors but school administrators and related vocational-technical-adult educational personnel. Funds are available to conduct summer and other institutes for teachers for new emerging occupations or to upgrade the competencies of teachers presently engaged in adult and vocational programs.

5. Program Organization and Administration

A number of investigations should be directed to the improvement of existing organizational structures of vocational education at State and local levels. The identification of factors which influence change, such as attitudes of State boards for vocational education; use of advisory groups; involvement of appropriate groups in the formulation of State plans, of matching funds, and other patterns of organization which facilitate rapid adaptation of program activities is urgently needed.

Successful local, State, and regional programs and their related organizational structures used to be identified and communicated elsewhere. Organizational and administrative patterns of vocational education programs already in existence need evaluation. Those that are successful need recognition and communication to other practitioners. Recent trends in general education, such as ungraded schools, team teaching, flexible scheduling, and individualized instruction need to be adapted to the purposes of vocational education.

6. Adult and Continuing Education

The increased emphasis on adult and continuing education is reflected in a substantial number of Federal programs, such as the Manpower Development and Training Act and the Economic Opportunity Act. This rapidly growing field requires definition and improved institutional patterns. Many previous attempts at planning have failed because of the lack of knowledge about the number and kinds of adults presently engaged in educational activities and of the number and kinds of courses and programs available to them. It is not possible to build a sound plan without a more accurate picture of the size and scope of the current enterprise.

Emphasis will be given first to determining the extent of participation in adult and continuing education activities. This undertaking will probably be in the nature of a census which will provide more reliable data on the numbers of adults participating in specific kinds of educational activities.

A second undertaking of equal importance is the assessment of the kinds of courses and programs for adults currently available in this country. Substantial programs in adult education are carried on by diverse agencies and organizations as departments of the Federal government, colleges and universities, junior and community colleges, propriatary schools, industrial firms, labor unions, public school systems, libraries and museums, and voluntary organizations of various kinds. It is necessary to understand the nature and scope of these offerings before attempting the design of future large-scale programs for adults.

Research is also needed on the problem of what motivates adults to continue learning and how they learn. It seems clear that both the motives of adults in seeking to learn and the process itself is different from what happens with children and adolescents, but definitive knowledge is lacking.

Emphasis will be placed on the development and evaluation of:

(1) The methods of recruiting and training teachers and leaders for adult and continuing activities;
(2) Ways in which adult education organizations and agencies can be coordinated in bringing their resources to bear on areas in which there is critical need for social action;
(3) Definition of the needs of older persons for broadening their education or learning new work skills;
(4) Educational programs for semiliterate adults to enable them to live more successfully in an urban environment; and
(5) Patterns of organizing and administering new institutions or agencies designed specifically for the education of adults.

7. Occupational Information and Career Choice

One of the severest handicaps to vocational and technical education has been the dearth of relevant occupational data and methods for effective communication of such information. Lack of knowledge about the ways in which career decisions are shaped has all too often led to the selection and preparation of youngsters for inappropriate careers, particularly those who can least afford to make wrong commitments.

Occupational information needs will be met through a variety of studies. For example, new and growing occupational fields will be surveyed to identify skill competencies and training requirements, and to determine future employment needs. Occupational classification systems will be analyzed for possible improvement. The costs of vocational education which are borne by students - such as tuition, transportation, and earnings given up to attend school - will be weighed against the returns to the individual in personal income, job satisfaction, and other benefits.

Projects which relate to improved methods of packaging and disseminating occupational opportunity information will also be sought in order to meet the needs of specific audiences, such as the high school dropout, the slow learner, disadvantaged youngsters, parents, hard core unemployed, etc.

Studies of the process of recruiting and selecting counselors and the entire process of vocational guidance and career choice are extremely important. We need to expand counseling practices which provide occupational information to the non-college bound student. We need to assess counselor competencies and to develop methods for their upgrading.

Projects which do not fall in one of these seven priority areas may be funded if conditions warrant support of such programs.

In addition to these general priority areas, priorities have been established for training seminars, institutes and workshops for the summer of 1966. These priorities are listed on Transparency 10. We plan to fund several such activities for vocational guidance and counseling personnel under priority 8 on this list. Proposals for conducting 1966 summer institutes and seminars should be submitted by February 15. Priorities for 1967 summer training activities will be established and communicated during the summer of 1966. We will welcome your suggestions of activities to be included in the 1967 priority listing.

TRANSPARENCY 10. PRIORITIES FOR TRAINING, SEMINARS, INSTITUTES, AND WORKSHOPS, SUMMER 1966

1. State and Local Leadership Development
2. Administration and Operation of Programs for the Disadvantaged
3. Teacher Educators - Instructional Media
4. Home Economics Teachers - Programs for Wage-earning Occupations
5. Administrators and Counselors - Post-secondary Programs
6. Teaching Psychiatric Nursing
7. Fluid-power Teachers
8. Vocational Guidance and Counseling Personnel
9. Teachers of Numerical Control
10. Office Education Teachers and Teacher Educators
11. State and Local Technical Education Administrators
12. Teachers of Instrumentation
13. Teachers of Agriculture Technologies
14. Dental Assistant Instructors
15. Home Economics Teachers - Preparation for Employment in Group Care and Guidance of Children

GUIDANCE AND COUNSELING PROJECTS

The Division of Adult and Vocational Research has approved 22 projects which relate directly or have some relevancy to vocational guidance and counseling. Eleven additional proposals have been received and are currently being processed. I will quickly review brief summaries of the 22 approved projects. The first 15 are more directly relevant to guidance and counseling, than the remaining seven. You may secure additional information on a specific project by contacting the principal investigator.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
Division of Adult and Vocational Research

Vocational Education Act of 1963
(P.L. 88-210 Sec. 4(c))

PROJECT SUMMARY - ERD-109-65
Contract No. OE-6-85-042

TITLE: Use of a Mobile Vocational Guidance Unit--A Pilot Project

PRINCIPAL INVESTIGATOR: Dr. Robert H. Zeller, Director
Department of Guidance Services

INSTITUTION: State Department of Public Instruction, Springfield, Ill.

FEDERAL FUNDS REQUESTED: $45,500

DURATION: Beginning, July 1, 1965 Ending, June 30, 1968

Objectives: To demonstrate what can be accomplished by providing vocational guidance services to non-college bound students in economically underdeveloped and sparsely settled areas by:

1. Providing information about jobs and training opportunities;
2. Conducting counseling interviews to assist individuals in understanding the assets they have to offer on the job market, and in recognizing attitudes and skills required for job placement, and by
3. Using two mobile units to transport itinerant counselors and a traveling library of guidance materials into the sparsely settled areas where the specified groups of students are located.

Procedures: Six economically underdeveloped communities will be selected. Actual guidance services will be provided within these communities throughout the first two years of the demonstration project. The third year will be devoted to an evaluation of the two-year demonstration period and to assisting schools and communities that will continue providing vocational guidance services. The State of Illinois will provide the necessary capital outlay for the mobile units.

PROJECT SUMMARY - ERD-120-65
Contract No. OE-6-85-001

TITLE: New Directions in Vocational Guidance: An Institute for Counselor Education

PRINCIPAL INVESTIGATOR: Dr. Phyllis C. Wilson, Coordinator, Guidance and School Counseling

INSTITUTION: Queens College, The City University of New York

FEDERAL FUNDS REQUESTED: $6,595

DURATION: Beginning, July 1, 1965 Ending, November 30, 1965

Objectives: To provide to counselor educators new knowledges of employment trends and major issues in the world of work so that they may, in conference, arrive at an initial statement of criteria to be met in revising vocational guidance to meet current needs.

Procedure: Informative sessions with key personnel from government, industry, labor, and counselor education will be followed by group discussions and finally by documentation of the thinking of the institute as a whole in a final report.

PROJECT SUMMARY - ERD-163-65
Contract No. OE-5-85-059

TITLE: Vocational Problem-Solving Experiences for Stimulating Career Exploration and Interest

PRINCIPAL INVESTIGATOR: John D.Krumboltz, Associate Professor of Education and Psychology

INSTITUTION: Stanford University, Stanford, California

FEDERAL FUNDS REQUESTED: $61,810

DURATION: *Beginning June 1, 1965 Ending, November 30, 1966

Objectives: To find ways of motivating young people to take advantage of job training opportunities, to continue their education, to see the world of work as a set of intriguing problems, and to explore their own career potentialities. A series of life-like problem-solving experiences related to particular occupations will be constructed and tested. It is hypothesized that tenth grade students who are given an opportunity to solve simulated vocational problems will explore possible career opportunities and engage in interest-indicative activities to a greater extent than will equivalent subjects given either information about these same occupations or more general occupational information. The relative effectiveness of interest-generating materials will be tested for each of three occupations, in both a suburban and less economically privileged high school, for both boys and girls.

Procedure: In each of two high schools 450 tenth grade students will be randomly assigned to the cells of the experimental design (25 students of each sex in each treatment group for each occupation) so that the total N will be 900. Materials respresenting the nine combinations (3 occupations by 3 treatments) will be arranged in a random sequence and distributed to students. Criteria of effectiveness will include the drop-out rate, self-ratings of occupational interest, extent of voluntary information seeking about careers, amount of knowledge about each occupation, interest inventory scores, and willingness to undergo training for an occupation. Analyses of variance and covariance as well as non-parametric methods will be employed to test the hypotheses.

* Confirmation of letter contract dated June 1, 1965

PROJECT SUMMARY - ERD-211-65
Contract No. OE-5-85-094

TITLE: A Short Course for Secondary School Counselors on Vocational and Technical Training and Employment Opportunities

PRINCIPAL INVESTIGATOR: Dr. Huey E. Charlton, Associate Professor of Guidance and Counseling

INSTITUTION: Atlanta University, Atlanta, Georgia

FEDERAL FUNDS REQUESTED: $15,447

DURATION: *Beginning, June 1, 1965 Ending, August 31, 1965

Objectives: Improvement of the professional competencies of secondary school counselors, with emphasis on:

(1) Acquisition of knowledge about needs for personnel in scientific and technical pursuits below the professional level.

(2) Acquisition of knowledge about training opportunities for non-college bound youth, with special attention to area schools, MDTA, etc.

(3) Acquisition of knowledge about employment practices and policies of large and small businesses and industries.

(4) Development of skill in the use of standardized tests.

Procedures: (1) Thirty selected secondary school counselors will be provided with six weeks of classroom instruction by two full-time professors and a variety of on-campus and off-campus consultants.

(2) Six one-day field trips will be made to large and small industries and businesses and to vocational and technical schools.

(3) During the six-week training program, each enrollee will prepare an outline for at least one inservice training program for the teachers in his school district. These local inservice training programs will be scheduled for the 1965-66 school year.

* A short term authorization of $10,000 was made on June 1, 1965, to initiate project work during the period of contract negotiation.

PROJECT SUMMARY - ERD-220-65
Contract No. OE-5-85-093

TITLE: Training Program for Vocational Counselors

PRINCIPAL INVESTIGATORS: Dr. Gordon G. McMahon, Associate Professor, Trade and Technical Education, and Dr. Donald Frick, Associate Professor, Education and Guidance

INSTITUTION: Colorado State University, Fort Collins, Colorado

FEDERAL FUNDS REQUESTED: $17,990

DURATION: Beginning, June 1, 1965. Ending, November 30, 1965

Objectives: 1. To develop counselor skills in implementing practical vocational counseling techniques in local communities.

2. To bring basic factual information to counselors regarding new areas of training offered by recent Federal legislation on all aspects of vocational education.

3. To develop in counselors a better knowledge and understanding of the world of work and vocational philosophy so that they may provide more effective vocational counseling for individuals at various levels of educational attainment.

Procedures: 1. Thirty selected school counselors will be provided with four weeks of classroom instruction by three full-time professors and a variety of on-campus and off-campus consultants.

2. Each enrollee will have supervised practical experience in testing, interviewing, and counseling individuals who are being served by the Occupational Adjustment Services Center of Denver's Emily Griffith Opportunity School.

3. Each enrollee will participate in business and industry visitations to observe job types, selection procedures, training requirements, etc.

4. Each enrollee will establish a plan of action based upon the total learning experiences of the training program. The plan of action will be formulated in terms of a cooperative effort for the enrollee's local community to meet the vocational education needs of the youth of the community.

* Confirmation of letter contract dated June 1, 1965

PROJECT SUMMARY - ERD-403-66
Contract No. OE-6-85-039

TITLE: Maximization of the Professional Potential of Home Economics Teachers Through Group Counseling

PRINCIPAL INVESTIGATOR: Dr. Elizabeth M. Ray, Associate Professor
Home Economics Education

INSTITUTION: Pennsylvania State University, University Park, Pennsylvania

FEDERAL FUNDS REQUESTED: $9,335

DURATION: Beginning, September 1, 1965 Ending, August 31, 1967

Objectives:
1. To investigate the influence of group counseling in reducing anxiety and identify stress amoung prospective home economics teachers.
2. To determine, through content analysis of transcriptions of recorded counseling sessions, the nature and sources of actual and anticipated conflict in relation to commitment to a professional role.
3. To study the effects of group counseling sessions as measured by scores on measures of professional commitment, self concept, concern for students, and seccess in student teaching.
4. To study the longitudinal effects of group counseling in individualized mediation of the personal-professional role and in variations in professional history.

Procedures: Each of three groups of approximately twenty undergraduate Home Economics Education majors entering the two term sequence of pre-professional courses will be divided into two sub-groups, and assigned randomly to experimental or control conditions. Students assigned to experimental conditions will be assigned to a group counseling situation in charge of a counselor from the psychology department, which will include two periods per week for 12 weeks, of the two-term sequence. The control group will not have the counseling experience. Differences between the two groups will be determined by measures of professional commitment, self actualization, discrepancy between perceived and ideal self, of student estimate of teacher concern, grades in selected courses, and scores on student teaching. The transcriptions of the recorded counseling session will be analyzed for personal-professional role conflict.

PROJECT SUMMARY - ERD-422-65

TITLE: Counselor Institute and Follow-Up Workshop Project

PRINCIPAL INVESTIGATOR: Dr. Howard E. Mitchell, Director, Human Resources Program

INSTITUTION: The University of Pennsylvania, Philadelphia, Pennsylvania

FEDERAL FUNDS REQUESTED: $34,862 *

DURATION: Beginning, July 1, 1965. Ending, June 30, 1966

Objectives: This institute is to increase the competence of a selected group of junior and senior high school guidance counselors to work with culturally disadvantaged youth. Specifically, it will increase counselor understanding of: the attitudes of this group; changing employment opportunities; and industrial requirements and plans for the future.

Procedures: Fifty counselors from the New Jersey, Delaware and Delaware Valley area of Pennsylvania will attend a summer institute from July 19 - August 6, 1965 for seven hours per day. A series of lectures, visits to industrial plants and small group discussions will comprise the course content.. In addition, each counselor will develop an individual or a small group project to be continued in his local school during the following year. A follow-up and evaluation to determine participant changes will be conducted by the research personnel during the year which follows conclusion of the institute.

* A short term authorization of $12,000 was made on June 1, 1965, to initiate project work during the period of contract negotiations.

PROJECT SUMMARY - ERD-475-66
Contract No. OE-6-85-035

TITLE: Work Conference to Develop Guidelines for Supplementation of Counselor Educational Curricula in the Vocational Aspects of Guidelines and Counseling

PRINCIPAL INVESTIGATOR: Dr. Carl McDaniels, Associate Professor of Education

INSTITUTION: School of Education and College of General Studies George Washington University, Washington, D.C.

FEDERAL FUNDS REQUESTED: $19,168

DURATION: Beginning, October 1, 1965 Ending, January 31, 1966

Objectives: To convene a 3 day work-conference in the autumn of 1965 to develop a set of guidelines to supplement existing counselor education curricula with respect to vocational aspects of guidance and counseling. Five papers related to the topic would be developed in advance of the conference for discussion and review purposes. There would be 25 participants invited to the conference. They would be assigned to work-study groups on various aspects of the guidelines. Upon completion of conference the guidelines would be reviewed by the participants and published for dissemination to directors of counselor education programs throughout the United States. The guidelines would therefore be available for trial use and evaluation in the summer and fall of 1966.

Procedures: In early September a 3-5 man advisory group would be chosen to make recommendation on the final selection of writers for working papers and participants to be invited. The work-conference would be held in mid-November at Airlie House, Warrenton, Virginia.

PROJECT SUMMARY - HRD-033-65

TITLE: Planned and Unplanned Aspects of Occupational Choices by Youth

PRINCIPAL INVESTIGATOR: Dr. Robert A. Ellis, Associate Professor of Sociology

INSTITUTION: Institute for Community Studies, University of Oregon, Eugene,Oregon

FEDERAL FUNDS REQUESTED: $379,842

DURATION: Beginning, March 19, 1965. Ending, August 31, 1966 *

Objectives: The general objective is to learn about the nature of the occupational decision process and of the social and personal factors that faciliate, impede or prevent youth in our society from developing occupational goals that can be effectively and realistically achieved. There are five specific objectives:

1. To develop a conceptual model of occupational choice.
2. To identify the typical steps followed by youth in developing occupational goals.
3. To determine group and environmental factors that systematically influence the occupational choice process.
4. To expand the techniques available for studying occupational choice patterns.
5. To collect and disseminate significant findings on occupational choice patterns.

Procedures: A nationwide study will be made of the planned and unplanned aspects of occupational decisions made by youth in our society. The study will involve the following specific tasks:

1. Systematically collecting and evaluating available knowledge on the occupational decision process and related factors.
2. Perfecting existing techniques and developing new techniques for studying occupational choice patterns, and translating them into terms usable at different educational and social levels.

* A short term authorization of $20,000 was made to initiate project work during the period of contract negotiation.

PROJECT SUMMARY - No. HRD-095
Contract - No OE-5-85-035

TITLE: The Relationship Between Guidance Programs and Changes in Student Behavior

PRINCIPAL INVESTIGATOR: Dr. Armas W. Tamminen, Professor and Head, Dept. of Psychology

INSTITUTION: Minnesota State Dept. of Education, St. Paul, Minnesota

FEDERAL FUNDS REQUESTED: $53,540

DURATION: *Beginning June 1, 1965. Ending May 31, 1966

Objectives: This studies a large-scale investigation of relationship between various aspects of guidance programs, on the one hand, and personal and social variables that have been frequently identified as possible guidance "outcomes", on the other. The major objectives of the study are to initiate a search for evidence that guidance programs justify the efforts and money expended on them.

Procedures: Using information available in the Minnesota State Department of Education and in the Office of the Statewide Testing Program, and gathering further information from a random sample of Minnesota schools and pupils, this study will: (1) measure various dimensions of school guidance programs and of personal-social characteristics of pupils exposed to these programs; (2) search for any relationships that may exist between these two sets of variables under varying school or situational conditions.

* Confirmation of a letter contract dated June 1, 1965

PROJECT SUMMARY - HRD-098-65
Contract No. OE-5-85-036

TITLE: Identification of Characteristics of Practical Nursing Students For Use in Guidance and Selection

INVESTIGATOR: Barbara L. Tate, Assistant Director, Research & Studies Service

INSTITUTION: National League for Nursing, New York, New York

FEDERAL FUNDS REQUESTED: $19,800

DURATION: Beginning, May 1, 1965. Ending, April 30, 1967

Objectives: This research is designed to discover whether a nursing student's (1) biographical characteristics, (2) reasons for choosing nursing, and (3) occupational goals when entering the program have any effect on her completion of the full program.

Procedures: Data are being collected through three questionnaires. The first is to be completed by all entering students at practical nursing schools randomly selected from a stratified sample. The second questionnaire will be given to all students who have finished their programs in these schools, and the third will be filled out by those same respondents a year after graduation. The information will be coded, tabulated, and analyzed in order to provide information for the further development of practical nursing as an occupation.

* A short term authorization of $5,500 was made on May 1, 1965 to initiate project work during the period of contract negotiation.

PROJECT SUMMARY - HRD-263-65
Contract No. OE-5-85-091

TITLE: A Development Program for Vocational Counselors Directed Toward Serving Disadvantaged Youth More Effectively

PRINCIPAL INVESTIGATOR: Dr. Thomas J. Sweeny, Director of The Guidance Center

INSTITUTION: University of South Carolina, Columbia, South Carolina

FEDERAL FUNDS REQUESTED: $16,711

DURATION:* Beginning, June 1, 1965 Ending, February 28, 1966

Objectives: To assist professional counselors in South Carolina to a better understanding of the problems of disadvantaged youth and to consider the most effective ways of dealing with the problems of these young people.

Procedures: An institute will be held during the summer at the University of South Carolina for 30 practicing counselors who work with disadvantaged youth. The participants will work together in developing and evaluating recommendation for serving this group more effectively.

* A short term authorization of $4,500 was made on June 1, 1965, to initiate project work during the period of contract negotiations.

PROPOSAL SUMMARY
Contract No. HRD-405-65

TITLE: Use of Computer Technology in Vocational Counseling

INVESTIGATOR: John F. Cogswell, Research Leader

INSTITUTION: System Development Corporation, Santa Monica, California

DURATION: November 1965 - April 1967

TOTAL FEDERAL FUNDS REQUESTED: $140,280

Objectives: The researchers will conduct a general survey of guidance practices in vocational training schools in order to discover how automated data-processing systems are currently being used. This information will provide the basis for innovations in computer-assisted counseling and will ultimately be utilized to construct a viable automated system of vocational guidance.

Procedures: The counseling procedures at 16 institutions connected with vocational education and guidance at both the high school and post-secondary levels -- including two State employment agencies - will be examined in detail. One of these sites will be selected for additional intensive study. An experimental, computer-assisted counseling system will then be developed to meet its particular needs. Included in the information-processing service will be a student data-base and retrieval system, programs for the appraisal of counseling techniques, and automated "interviewing" procedures for the collection of routine information. The effectiveness of the system will be evaluated after it has been put into operation.

PROJECT SUMMARY - HR-5-0065
Contract No. OE-2-10-39

TITLE: Floundering and Trial After High School

PRINCIPAL INVESTIGATOR: Dr. Donald E. Super

INSTITUTION: Teachers College, Columbia University

FEDERAL FUNDS REQUESTED: $98,418

DURATION: September 15, 1961-September 14, 1964

Objectives: This project is to investigate the psychological characteristics, social environment, and academic experience of a group of young adults and compare these factors with the amount of floundering and trial each experienced prior to the time he became established in a regular adult occupation.

Procedures: Interviews, questionnaires, and tests will be used to collect data on vocational maturity, personal adjustment, social adjustment, socioeconomic status, achievement and experience on a group of young adults who are the subjects of previous experimental research. The data will be processed using a high-speed-electronic computer to tease out the relationships which exist among the factors being considered. The relationships which are discovered should provide a better understanding of the influence of the developmental factors on career achievement.

PROJECT SUMMARY - No EO-402-66
OE-6-85-052

TITLE: A Multi-Media Approach to Communicating Occupational Information to Non-College Youth

PRINCIPAL INVESTIGATOR: Dr. Ann M. Martin, Research Director, Center for Library and Educational Media Studies

INSTITUTION: University of Pittsburgh, Pittsburgh, Pennsylvania

FEDERAL FUNDS REQUESTED: $127,765

DURATION: Beginning, October 1, 1965 Ending, November 30, 1967

Objectives:
1. To prepare a variety of guidance materials (including a 12-to 16-week television series) utilizing available occupational data.
2. To develop a training program for counselors

Procedures: Current needs for guidance information will be established by holding a conference of experts in the field. The materials which are produced will be used in 8 Pittsburgh school districts at the 8th and 12th grade levels. Changes in student behavior will be analyzed and comparisons will be made with students in a matching group of school districts used for control.

PROJECT SUMMARY - ERD 279-65
Contract No. OE-6-85-002

TITLE: PREP--Program for Recovering and Extending Potential for High School Underachievers Seeking Entrance at a Regional Community College

PRINCIPAL INVESTIGATOR: Mr. John J. Shea, Ed.D., Candidate and Teaching Fellow, School of Education

INSTITUTION: Greenfield Community College, Greenfield, Massachusetts

FEDERAL FUNDS REQUESTED: $4,659

DURATION: *Beginning, July 1, 1965. Ending, June 30, 1966

Objectives: 1. To determine if a Planned Summer Remedial Program (PREP) can prepare identified high school graduate-under-achievers for success in a two-year terminal program.

2. To determine whether personal-vocational counseling will have a differentiating effect on this student goal achievement.

3. To determine through followup procedures the degree to which both the remedial program and the underachievers have been successful.

Procedures: The 40 participants selected from public schools in three Massachusetts counties will be screened to determine that they have been unsuccessful college applicants. These persons will be voluntarily enrolled in the PREP program at Greenfield Community College for a seven-week remedial program and will be guaranteed admission to this college as full-time students for the fall semester. Pre-test and post-test objective data will be collected on each participant. Twenty of these students will be selected in random manner for internal personal vocational counseling. Test scores of the 40 PREP participants will be compared at the end of the first semester with the pre-test and post-test scores of a randomly selected group of successful two-year terminal students.

* Confirmation of letter contract dated July 1, 1965

PROJECT SUMMARY - No. HRD-155
Contract - No. OE-5-85-054

TITLE: Study of Youth in High School, at Work and Unemployed

PRINCIPAL INVESTIGATORS: Mr. R.L. Kahn, Program Director, Survey Research Center and Mr. J.G. Bachman, Study Director

INSTITUTION: University of Michigan, Ann Arbor, Michigan

FEDERAL FUNDS REQUESTED: $89,077

DURATION * Beginning, June 1, 1965 Ending, May 31, 1971

Objectives: Three issues, two pragmatic and one theoretical, are basic to the research here proposed and summarize the objectives: (1) What are the differential effects of three major patterns of education and socialization in late adolescence -- high school, employment, and unemployment? (2) Against what basis of comparison can new developments in education and training (the Job Corps, for example) be appraised? (3) What are the potent factors in terms of which the effects of these several educational environments can be explained?

Procedures: The research objectives will be met by means of a three-year study of boys in the transitional period from late in the fifteenth year to early in the eighteenth year. In order to explore the relationships among factors, and among changes in them, three panels of subjects will be used: (a) 900 boys who remain in secondary school until they graduate, (b) 600 boys who leave school shortly after their sixteenth birthday and soon find jobs, (c) 300 boys who leave school shortly after their sixteenth birthday and do not readily find jobs.

* Confirmation of letter contract dated June 1, 1965

PROJECT SUMMARY - HRD-159-65
Contract No. OE-5-85-058

TITLE: Factors Related to Educational and Occupational Aspirations of Early Adolescent Males from Culturally Deprived Families

PRINCIPAL INVESTIGATORS: Dr. Ruth J. Dales, Professor, and Dr. James Walters, Professor and Head, Department of Home and Family Life

INSTITUTION: Florida State University, Tallahassee, Florida

FEDERAL FUNDS REQUESTED: $ 24,760

DURATION: Beginning June 1, 1965 Ending May 31, 1969

Objective: To examine the relationship between academic and vocational aspirations of intellectually competent and academically successful youth from culturally deprived areas and their friendship patterns, self concepts, family relations, and behavior as rated by teachers.

Procedures: A three-year study of white and Negro boys in low economic areas in North-Florida will be conducted. Eighty, ninth, and tenth grade pupils will be considered in the first year of the study. During the second year these same youth will be followed as they progress into the ninth, tenth, and eleventh grades. In the third year they will be followed as to progress into the tenth, eleventh, and twelfth grades. The youth who reveal high potential but low aspiration will be studied with reference to peer-group and family-home situations. Background characteristics of youth who withdraw from school prematurely and youth who remain in school will also be examined.

* A short term authorization of $6,500 was made on June 1, 1965, to initiate project work during the period of contract negotiation.

PROJECT SUMMARY - No. HRD - 173
Contract - No. OE-5-85-067

TITLE: Work Orientation of Teenagers

PRINCIPAL INVESTIGATORS: Mr. Robert Smith, Study Director and Mr. Ronald Lippett, Program Director

INSTITUTION: University of Michigan, Ann Arbor, Michigan

FEDERAL FUNDS REQUESTED: $52,463

DURATION: * Beginning, June 1, 1965. Ending, September 30, 1966

Objectives:
1. To study the experiences and social contacts of school dropouts;
2. To determine how these relate to factors such as race, religion, social class, sex, the meanings of work and play, competence, success, and jobs, and
3. To evaluate findings for use in counseling and guidance.

Procedures: A dropout sample will be determined by consulting school records. Questionnaire data on the twelfth grade students will be compared with responses made while in the eighth and tenth grades to study developmental changes occuring during this period. A series of conferences will be held for school personnel to disseminate the findings and discuss their application to school problems.

* Confirmation of letter contract dated June 1, 1965

PROJECT SUMMARY - HR-348-65
Contract No. OE-6-85-074

TITLE: Migration and Vocational Choices of Students from an Economically Depressed Area

INVESTIGATOR: John Harp, Associate Professor of Rural Sociology

INSTITUTION: Cornell University, Ithaca, New York

DURATION: October 1, 1965 - September 30, 1966

FEDERAL FUNDS REQUESTED: $6,156

Objectives: This project will examine factors involved in the migration of post-high school youth from an economically depressed rural area. In particular, any environmental characteristics which appear to relate to the consistency of initial career plans and eventual job choice will be examined.

Procedures: Data collected three years ago from a sample of 800 high school graduates will provide the baseline for the study. The original subjects will be contacted and requested to supply information about the types and locations of their present occupations. These data will be compared with that available from the previous study in which the subjects were asked about their plans for the future.

PROJECT SUMMARY - HR-409-65
Contract No. OE-6-85-171

TITLE: Characteristics of Vocationally-Oriented School Dropouts and Graduates

INVESTIGATOR: George Mallinson, Dean, School of Graduate Studies

INSTITUTION: Western Michigan University, Kalamazoo, Michigan

DURATION: October 1, 1965 - June 30, 1967

FEDERAL FUNDS REQUESTED: $30,490

Objectives: This project will study the characteristics of high school dropouts and graduates who enter technical training programs and who drop out, who find employment immediately after completing high school, or who remain unemployed. The data will then be compared to information already available on students from the same schools who entered institutions of higher education.

Procedures: The subjects of a previous study of high school students will be re-contacted for this project. In addition to the data already on file, information will be obtained concerning their present employment status, any supplemental technical training they may have received, and their occupational aspirations. The collected data will be analyzed by computer. The results will be used to aid high school administrators and counselors in their vocational guidance programs.

PROJECT SUMMARY - HRD-413-65
Contract No. OE-6-86-065

TITLE: Improvement of Vocational Decision Making in the Community College

PRINCIPAL INVESTIGATOR: Antoinette Ryan

INSTITUTION: Blue Mountain Community College, Pendleton, Oregon

DURATION: October 1, 1965 - November 30, 1966

FEDERAL FUNDS REQUESTED: $ 56,537

Objectives: In order to encourage realistic vocational descision making by community college students, the initiators of this project will develop an integrated teaching and counseling program. The curriculum will include both instruction in basic skills and specific counseling experiences, so that a student's knowledge of himself can be increased as he learns factual material.

Procedures: Students at a community college who are judged to be either inadequate or unrealistic in making vocational decisions will be subjects of this research. They will be enrolled in a specially-designed curriculum including such factors as (1) individualized instruction, (2) team teaching, (3) a laboratory environment, and (4) small group counseling sessions. Course material will be aimed at fostering effective study habits and increasing basic skills in reading, writing, and mathematics. The experimental curriculum will be evaluated by comparing those students who have completed it with others who have not.

May I repeat again that it is a pleasure for me to participate in this seminar. Dr. Taylor, Dr. Campbell and the Center staff are to be commended for their excellent planning and leadership. I feel confident that our experience here will contribute greatly to our ability to more adequately serve vocational and technical education.

MANPOWER AND LABOR ECONOMICS: IMPLICATIONS FOR GUIDANCE IN VOCATIONAL-TECHNICAL EDUCATION

Howard Rosen
Assistant Director, Research
Manpower Administration, U.S. Department of Labor

Introduction

This seminar has been called to formulate new guidelines for vocational and technical education. In the past, those of us designated as "manpower economists" have alerted educators and guidance practitioners to basic changes occurring in the structure and pattern of activity of the population and labor force in the economy. I trust that my remarks will be of some assistance in enabling you to meet your difficult and practical problems which were identified by the Chairman of the meeting in his, "Need for the Seminar." Above all, I ask you to accept my comments as those coming from a friend of both vocational guidance and vocational education.

The more violent critics of vocational education have argued that it has failed to keep pace with changes in the economy and has thus become a moribund institution. I maintain that vocational education has, in the past, provided critically needed training for this Nation's labor force and that it now has the capability to adjust to the needs of our economy. I start with the premise that vocational education will continue to play a key role in training American workers. My optimism about the future of vocational education is based primarily upon certain sections of the Vocational Education Act of 1963 which contain "built-in" adjustments to change. I will refer to these sections shortly.

Too many of the critics of vocational education fail to recognize that this country has been able to achieve high war and peace-time levels of production because of our vocationally-trained labor force. When President Roosevelt, during World War II, called for the highest production of aircraft in world history, his critics scoffed and said that we had neither the manpower nor the material to meet these demands. Vocational education made a major contribution to the achievement of these war production goals by training some 7.5 million persons during World War II.

Let me expand on the phrase, "vocationally-trained labor force." Manpower economists do not have a single figure or concept which we can use as a "national skill level index" for comparing the skilled labor forces of the countries of the world. If there were such an index, I believe that this country would be ranked with the leaders. There is no question in my mind that one of the major reasons for this country's high ranking could be attributed to the skill and training contributed by our vocational education system.

Let me put this concept on a very personal level. Few of us engaged in "do-it-yourself" activities who casually do minor repairs about the home remember where we acquired the basic skills to do this type of work. We need to be reminded that many of us may have been among the 4 million persons enrolled in industrial arts education where we were exposed to basic industrial skills, knowledge, and concepts. We might have also been at some time, among the millions of persons (4.6 million in 1964) enrolled in federally reimbursed vocational education programs. When the enrollments of industrial arts education and vocational education are combined over a period of time it becomes easier to understand the contribution of vocational training in schools to the skill level index of the American labor force. This skill index means that we have a flexible labor force carrying with it an ever increasing cumulative level of skills and adaptability that can adjust to new economic social and technological change more readily than most other labor forces in the world.

Friends can also criticize. Let me use this prerogative now--particularly in connection with the efficiency of our vocational education system.

We are beginning, for the first time, to get some data from broad scale studies of vocational education. The first nationwide study of the post-graduation employment experience of male graduates of trade and industry vocational courses shows that the majority of vocational course-graduates do not, for their first job, enter the trade for which they trained in high school.[1] Of the young men whose first job is not in the trade studied, very few enter the trade in later years.

The American Institutes for Research study reports that for 1953, 1958, and 1962 only 13.4, 14.4, and 19.8 percent of the trade and industry graduates have held all of their full-time jobs in the trade studies. Apparently the majority of the T & I graduates do not work in either the trade studied or closely related trades.

This "gap" between the trade studied and future employment raises some serious questions about the effectiveness of both vocational education and guidance. Are we supporting a training system which is not preparing youngsters for the jobs they get? Coupled with the training question, we must also keep in mind the findings of the Project Talent study that between 50 and 60 percent of the 12th grade students in 1960 indicated that they had not discussed college or career plans with a school counselor during the previous year.[2]

Any impartial observation of the data on the enrollment in federally aided programs brings one to the conclusion that vocational education has not adjusted readily to the needs of our changing economy. We cannot ignore the facts that only last year 44.3 percent of the enrollees in federally aided vocational education programs were studying home economics and 18.8 percent were studying agriculture in the most highly industrialized Nation in the world (see Table 1). Between 1960 and 1964 employment in agriculture declined 16.8 percent from 5.7 million to 4.8 million. During this same period, enrollment in vocational agriculture rose 8.1 percent from 796,200 to 860,600.

Vocational educators have never squarely faced the issue of the mass exodus of manpower from farms in the United States. They have not acknowledged the net transfer of almost 25 million persons from farms since 1940. Today, the number of farm reared persons makes up approximately one-third of the total population in metropolitan centers. How many of these persons were equipped for urban employment when they were given vocational training in their local communities? Let me return to this question again when we look in more detail at the industrial and occupational changes which have occurred in our economy.

The time has come for vocational educators and those concerned with vocational guidance to take a close look at economic and social changes now taking place. Manpower economists can bring the facts to their attention. The changes in training and guidance will only take place when educators and guidance specialists translate these facts into revised programs and curricula.

I, for one, am acutely aware that many of the changes required for new directions can occur only under painful and wrenching conditions. Teachers and educators who have been raised and trained in a rural environment cannot easily adjust their thinking to the requirements of an urban world of fast-moving change. Many persons with special interests will argue for the status quo and resist change.

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[1] Max W. Eninger, The Process and Product of T & I High School Level Vocational Education in the United States (Pittsburgh: American Institutes for Research, Institute for Performance Technology, September 1965), ch. 5, p. 25.

[2] Progress Toward the Goals of Project Talent (Washington: U.S. Department of Health, Education, and Welfare, Office of Education, June 1965), Bulletin No. 4, OE-25043.

Table 1. Enrollment in Federally Aided Vocational Classes, by Type of Program, Selected Years

Fiscal Year	Total	Agri-culture	Distri-butive Occupations	Home Economics	Trades and Industry (1)	Practical Nursing	Technical Education
				Number (in thousands)			
1918	164.2	15.5	-	30.8	117.9	-	-
1948	2,836.1	640.8	292.9	1,139.8	762.6	-	-
1960	3,768.1	796.2	303.8	1,588.1	938.5	40.2	101.3
1961	3,855.6	805.3	306.1	1,610.3	963.6	47.3	123.0
1962	4,072.7	822.7	321.1	1,725.7	1,005.4	49.0	148.9
1963	4,217.2	827.8	309.6	1,839.4	1,001.8	54.0	184.6
1964 (2)	4,556.4	860.6	334.1	2,022.1	1,069.3	59.0	221.2
				Percent distribution			
1918	100.0	9.4	-	18.8	71.8	-	-
1948	100.0	22.6	10.3	40.2	26.9	-	-
1960	100.0	21.1	8.1	42.1	24.9	1.1	2.7
1961	100.0	20.9	7.9	41.8	25.0	1.2	3.2
1962	100.0	20.2	7.9	42.4	24.7	1.2	3.7
1963	100.0	19.6	7.3	43.6	23.8	1.3	4.4
1964 (2)	100.0	18.8	7.3	44.3	23.4	1.3	4.8

(1) Includes enrollment in fishery occupations.
(2) Provisional, subject to final review of state reports.
Source: U.S. Department of Health, Education, and Welfare, Office of Education.

I want to point out that those who will suffer the most from our inability to adjust to change will be the youngsters you educate and train. The real reason for this seminar is not vocational guidance nor vocational education. The real purpose is our concern for our future citizens. The stakes we are discussing are far higher than vocational guidance programs. For this reason, we must be guided by facts in developing the best possible vocational and guidance programs. The stakes are too important to let personal bias and involvement influence decisions and direction.

Let me now turn to the topics I wish to explore with you. These will include the current economic environment and indicate some of the changes which have occurred in recent years. Brief reference will be made to industrial employment changes, occupational shifts, trends in the employment of women, mobility of the labor force, and technological change. I will then turn to future manpower needs with specific reference to industry and occupational requirements.

After looking at the current scene and anticipated changes, I will discuss some problems of vocational guidance and challenges to manpower economics which these changes portend. The last section touches upon some research questions for vocational guidance and vocational education.

Economic Environment--1965

In looking at vocational education today, we must remember that we are viewing it from a vantage point of some 72.8 million Americans employed, with unemployment in November 1965 down to 3.0 million--one of the lowest levels in 8 years. Although we still have about 638,000 nonwhite workers unemployed and over four-fifths of a million jobless teenagers, it is apparent that our employment situation is in a far stronger position than it has been for many years.

However, before we are overwhelmed by the euphoria of a 4.2 percent unemployment rate, we must also take into account the fact that we are looking at a process of change--not a static situation. The very dynamism of our economy means that unless our institutions and our labor force keep up with change that their lag will create new future economic and social problems.

Let us note some of the more obvious industrial and occupational changes which relate directly or indirectly to vocational education and vocational guidance. We will then turn to some of the anticipated changes of the future.

Industry Employment Shifts

As indicated earlier, we should be aware that one of the most striking changes of the past 50 to 60 years has been the shift from farm to nonfarm work. The percentage of the civilian labor force engaged in agricultural activities declined from 38.8 percent in 1900 to 6.4 percent (1 out of 15) in 1964. In 1910, about 1 out of every 3 workers was employed in agriculture.

This massive shift away from agriculture to other economic activities has drastically affected the kinds of industries in which our labor force is employed so that today there are three times as many jobs in trade, finance, service, and government as there were nearly 50 years ago. Within the nonfarm sector of employment there has also been a significant move away from goods-producing industries such as manufacturing, mining, construction, and agriculture to service-producing industries such as trade, government, service, finance, insurance, real estate, transportation, and public utilities.

By 1964 we had some 37 million employed in service-producing industries as compared with the 25.8 million working in goods-producing industries (see Table 2). Between 1947 and 1964 the number of workers employed in service activities rose by 11,744,000 as compared with a decrease of 933,000 in goods-producing industries.

A recent research project, sponsored by the Manpower Administration of the U.S. Department of Labor under Title I of the Manpower Act, has underscored another significant development. This has been the growth of employment among not-for-profit organizations. Thus, the number of persons employed directly and indirectly for the not-for-profit sector (nonprofit institutions and government) of the economy comprised at least one-third of the entire employed population in 1963.[3] Included in the not-for-profit sector are all, or a high proportion, of programs which provide such basic goods and services as defense, education, health, religious activities, science and research, social welfare, cultural activities, the handling of mail, and police protection.

Occupational Changes

Because of these shifts occurring in industry employment, we have also had some sharp changes in the kinds of jobs our workers perform. Going back to 1910 again, we see that about 1 in 5 workers had a white-collar (professional, technical, proprietary, managerial, clerical, sales) job; more than 1 in 3 was a blue-collar worker (skilled, semiskilled, and unskilled); 1 in 3 was a farm worker and 1 in 10 had a service job.

One of the important changes of the post-World War II period has been the much greater growth in the number of workers in white-collar and service occupations as compared with manual workers. This growth has been especially large both in the number and proportion of professional and high-level managerial workers. Employment of white-collar workers rose by more than one hals (54 percent) between 1948 and 1964, rising from about 20.2 million to 31.1 million, so that 2 out of 5 workers were in white-collar jobs as compared with 1 out of 5 in 1910. Employment of service workers also rose substantially, growing from 6 million to 9.3 million, an increase of 55 percent. At the same time, employment of blue-collar workers increased much less rapidly, increasing about 8 percent from 23.6 million to 25.5 million. The number of farm workers actually declined, falling from 8.1 million in 1947 to 4.4 million in 1964, a drop of 45 percent.

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[3] Eli Ginzberg, Dale L. Hiestand, and Beatrice G. Rubens, The Pluralistic Economy (New York: McGraw-Hill Book Company, 1965), p. 203.

Table 2. Wage and Salary Employment by Industry in the United States, 1964
(In thousands)

Goods-Producing Industries		Service-Producing Industries	
Agriculture (1)	4,761	Transportation and public utilities	3,976
Contract construction	3,106	Wholesale and retail trade	12,188
Mining	635	Finance, insurance, and real estate	2,944
Manufacturing	17,303	Service and miscellaneous	8,533
Total	25,805	Government	9,502
		Total	37,143

(1) Includes self-employed and unpaid family workers.
Source: U. S. Department of Labor, Bureau of Labor Statistics.

Employment of Women

One of the most striking developments in the post-World War II period has been the more rapid growth in the employment of women over that of men. Since the end of World War II, employment of women rose from 16.3 million to more than 24.2 million, an increase of almost 50 percent. This increase was four times more rapid than the rate of increase of jobs for men.

In 1965, 50 percent of all American women between the ages 45-54 were in the labor force. This is a dramatic contrast with the situation at the start of the century. At that time, only about 15 percent of women in this central age group were in the labor force.

Almost 3 out of every 4 employed women over the age of 35 are working in four major occupational categories. These occupations are ranked according to size from: clerical and kindred workers (26.5 percent); service workers, except private household (16.5 percent); operatives and kindred workers (15.9 percent); and professional, technical, and kindred workers (13.2 percent). (See Table 3.)

Table 3. Employed Women Aged 35 and Older by
Major Occupational Group, March 1963

Total: Number (in thousands)	14,724
Percent distribution	100.0
Major occupational group	
Professional, technical, and kindred workers	13.2
Farmers and farm managers	.7
Manager, officials, and proprietors, except farm	6.3
Clerical and kindred workers	26.5
Sales workers	8.3
Craftsmen, foremen, and kindred workers	1.3
Operatives and kindred workers	15.9
Private household workers	9.2
Service workers, except private household	16.5
Farm laborers and foremen	2.0
Laborers, except farm and mine	.3

Source: Special Labor Force Report, No. 40, U. S. Department of Labor, Bureau of Labor Statistics.

The major difference between the occupational distribution of the younger and more mature women, is that more than a third of the young women are in clerical jobs (1 in 4 of the women 35 and over have clerical jobs).

What is the significance of the high proportion of women 35 and over in the labor force and their occupational distribution to counselors and educators?

First, a large number of the women you educate will have three careers. The first career will take place after they leave school and enter the labor force. When they marry they will then leave the labor force to begin their second career as mothers and homemakers. The third career, typically, will take place after their children have reached school age and they return to the labor force. This pattern of work life must be understood by the educator and counselor in training young women and counseling them about their future careers.

The second significant fact about the employment of women is of direct interest to educators. How does the educational program you are now offering fit in with the fact that 1 out of every 4 working women age 35 and over today has a clerical or related job? Are today's training programs preparing women for the right kinds of employment opportunities?

It is now apparent that women represent a key element in our working force. They are evidently here to stay. By July 1964, the 4.5 million women working in manufacturing industries made up about one-quarter of total manufacturing employment. Approximately 50 percent of the employees in communications (telephone, radio and television broadcasting), and finance, insurance, and real estate were women.

Within the manufacturing industry segment, women workers accounted for more than 50 percent of the employment in electronic component plants. About 4 out of 5 workers in the apparel industry were women.

Both educators and counselors must now take into account the inescapable fact that women workers can no longer be sloughed off into training for homemaking with the mistaken notion that they will spend most of their lives out of the labor force and in the home. The kind and quality of training given to young women deserves the same priority as that given to young men. Furthermore, because so many married women must move with their husbands, their training must also be broad enough to enable them to adjust to widely different job opportunities.

Mobility of the Labor Force

Persons concerned with education and training have been slow in recognizing the fact that many of the young people they educate and train will leave their home communities[4]. As an indication of the mobility of our population we should keep in mind that half of the over 3,000 counties in the United States lost population due to outmigration between 1950 and 1960.

More recently, a study of the mobility of the population showed that between 1963 and 1964, about 11 percent of the 18 and 19 year olds have moved across a county line[5]. The migration rate for the 20 and 21 year olds was 15 percent and was up to 17 percent for those 22 to 24. The peak migration rate apparently occurs among persons in their early twenties--the age at which most young people leave their parental homes to find jobs, to get married and set up their own homes.

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[4] Although the American Institutes for Research study, The Process and Product of T & I High School Level Vocational Education in the United States, implies there was very little mobility among the trades and industry graduates (ch. 12, p. 3), the evidence presented contradicts the implication. If the graduates for whom no address could be found were included among the movers (and many of them probably should have been included), then almost 50 percent of the graduates did in fact, move.

[5] Mobility of the Population of the United States March 1963 to March 1964 (Washington: U. S. Department of Commerce, Bureau of the Census, September 7, 1965), Current Population Reports, Series P-20, No. 141.

Many of the workers trained in vocational education institutions do not remain in their home towns after they receive their education. This becomes apparent when we see that between 1959 and 1964, about 600,000 male manual workers age 18-24 moved to noncontiguous states. (About half of these workers may have moved more than once.) Approximately a quarter of these movers were craftsmen.

The mobility problem is further complicated because of the extremes in environmental conditions in which a young person may be born, raised and trained and his ultimate destination as a worker. This is clearly delineated in the rural to urban population shift.

In May 1958, there were 25.8 million native born persons 18 years of age and over in the country who had been born on farms. About two-thirds of the farm-born population had migrated to nonfarm areas[6]. A recent survey of 16-21 year old youths showed that 40 percent of the boys and 60 percent of the girls who had been farm residents their last year in school had moved to nonfarm areas[7].

Farming is usually considered a family enterprise in which agricultural skills are passed from generation to generation. However, in 1962, only 20 percent of the employed male population 25 to 64 years old whose fathers were farmers and farm managers were also employed in agricultural occupations. Moreover, only 2 out of every 5 men, age 25 to 64 who had begun work as farmers were still engaged in farming in 1962.

The majority of these farmers' sons shifted out of farming into blue-collar, semiskilled occupations. Only a third of the farm-born were in white-collar jobs, compared with nearly a half of the nonfarm natives.

The reality of mobility and the significant differences in the kinds of jobs those raised on farms eventually get can no longer be overlooked by those charged with the responsibility of educating our youth. It appears that youngsters growing up in rural areas are being short-changed for life because of the training they get--or because of the lack of training.

Technological Change

No current analysis of education and vocational guidance can omit a discussion of technological change and its possible impact upon employment and job content. The new industry of research and development which exploded when expenditures for these activities rose from under $1 billion in 1941 to some $21.5 billion in 1965, guarantees changes and provides a built-in innovator in our economy.

Surprisingly, little hard data are available on the overall pace and effects of technological change. Our productivity measurements, which are limited in their ability to accurately measure technological change, do appear to indicate a modest historical acceleration in the rate of change.

Empirical evidence does indicate that technological change is a major factor in the displacement and unemployment of particular employees. The evidence is not so clear, however, that technological change has been primarily responsible for the high levels of unemployment which prevailed since 1953.

For this meeting, we can draw some useful conclusions about technological change without pursuing all of the arguments about the pace and impact of change upon the economy. The most important comment we can make about technological change is that it is necessary and desirable and our workers must be prepared to adjust to it throughout their working careers.

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[6] Characteristics of U. S. Population by Farm and Nonfarm Origin (Washington: U. S. Department of Agriculture, Economic Research Service, December 1964), Economic Report No. 66.

[7] Out-of-School Youth, February 1963--Part II (Washington: U. S. Department of Labor, Bureau of Labor Statistics, 1965), Special Labor Force Report, No. 47.

Congress has recognized that at least some of the costs for adjusting to technological change should be borne by society. The passage of the Manpower Development and Training Act in 1962 represented a move toward public policy which acknowledged that, as a Nation, we are willing to share the costs of adjusting to change by training and retraining workers displaced by technological change.

If we can assume that a 20 year old man will make more than six job changes (defined as a change of employer) during his 40 years of working life, it is fair to assume that some of these job changes will require new and different levels of skills[8]. The best tools available to provide the means of adjustment are education and training. We must teach more of the Nation's workers that change is permanent and the need to adjust to change will continue throughout their working careers. This philosophy and attitude should be instilled by both guidance counselors and educators in order to overcome the resistance to continuing education and training which prevails among some members of the labor force.

Before leaving the subject of technological changes, reference should be made to the fact that the millennium of the disappearance of the blue-collar worker is not yet here and will probably never come. Let us not be overcome by glib predictions of "workerless factories" of tomorrow.

We are so overcome with the dramatic shifts to white-collar jobs that we sometimes forget that millions of men and women are at work every day producing our clothing, furniture, automobiles, television sets, and performing service functions in restaurants and gasoline stations. Despite the hue and cry about cybernetics and automation, real life for millions of workers still consists of production and service jobs which have not disappeared and are not about to disappear in the near future. More of our educators ought to be thinking about the needs of these workers.

Just keep in mind that in October 1965, we had some 13.5 million semiskilled workers, some 3.7 million nonfarm laborers, and 9.5 million service workers producing goods and services. Not enough thinking and planning is being done about the educational and training needs of the people who fill these jobs before they enter the labor force and after they are already employed. The whole question of training for upward occupational mobility has never received the attention it deserves.

Future Manpower Needs

This peroration on past and current changes naturally leads to a look at the world of tomorrow. This future world is the world in which your students will live and work. Taking into account lead-time, educators must always be concerned with preparing young persons for tomorrow's world--not today's.

Although some brave industrial and occupational projections will be presented here, let it be clearly and honestly understood at the outset that it is in the area of forecasting that manpower economics faces its most difficult conceptual and technical problems.

Let me first briefly note the most recent manpower projections developed by the Bureau of Labor Statistics.

Industry Manpower Projections

The Department of Labor's Bureau of Labor Statistics has estimated that job growth in the economy will continue to be faster in the service-producing industries than in the goods-producing industries[9]. Between 1964 and 1975 manpower requirements in the goods producing sector (excluding agriculture) are expected to increase by about 15 percent to above 24 million. Agricultural employment is expected to fall by about 22 percent during this period, from nearly 4.8 million in 1964 to 3.7 million in 1975, despite an anticipated rise of about one fifth in agricultural output.

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[8] Stuart H. Garfinkle, The Length of Working Life for Males, 1900-60 (Washington: U. S. Department of Labor, Manpower Administration, Office of Manpower, Automation and Training, July 1963), Manpower Report No. 8.

[9] See assumptions used in making these projections from Manpower Requirements in 1975 (Washington: U. S. Department of Labor, Bureau of Labor Statistics, Division of Manpower and Occupational Outlook, October 1965), pp. 6-14.

Requirements in the service-producing industries--trade, government, services, transportation and public utilities, and finance, insurance, and real estate--are expected to continue the rapid increase of the post-World War II period, when the number of workers on the payrolls of these industries increased 46 percent, from 25.4 million in 1947 to 37.1 million in 1964. Over the 1964-75 period, manpower requirements in the service-producing industries are expected to increase by 36 percent, reaching 50.6 million in 1975.

Occupational Requirements

The Bureau of Labor Statistics estimates that the most rapid increase in manpower requirements between 1964 and 1975 will be for service workers (See Table 4). The demand for service workers is expected to increase the requirements for these workers by about two-fifths as compared with the expected growth of about one quarter in total employment.

An increase of about one-third is anticipated for white-collar jobs. Among white-collar occupations, the most rapid increase in requirements will be for professional and technical workers, which may grow twice as rapidly (45 percent) as the average for all workers. The requirements for blue-collar workers are expected to rise by one-sixth between 1964 and 1975. Among the blue-collar workers, the most rapid growth in requirements will be for craftsmen. Requirements for operatives will increase more slowly, by about a seventh, and little change is expected in the demand for laborers.

A nearly one-fourth decline in requirements is anticipated for farmers and farm workers.

Table 4. Total Employed in 1964 and Projected Requirements in 1975, by Major Occupational Group. (Numbers in thousands)

Occupational group	1964 (Actual)		1975 (Projected)		Percent change, 1964-65
	Number	Percent distribution	Number	Percent distribution	
Total, all groups	70,357	100.0	87,300	100.0	24
White-collar workers	31,125	44.2	41,300	47.3	33
Professional, technical, and kindred workers	8,550	12.2	12,400	14.2	45
Managers, officials & proprietors, except farm	7,452	10.6	9,300	10.7	25
Clerical and kindred workers	10,667	15.2	14,200	16.3	33
Sales workers	4,456	6.3	5,400	6.2	21
Blue-collar workers	25,534	36.3	29,700	34.0	16
Craftsmen, foremen, and kindred workers	8,986	12.8	11,200	12.8	25
Operatives and kindred workers	12,924	18.4	14,700	16.8	14
Laborers, except farm and mine	3,624	5.2	3,800	4.4	5
Service workers	9,256	13.2	13,000	14.9	40
Farmers and farm workers	4,444	6.3	3,400	3.9	-23

Note: Percents assume a 4 percent level of unemployment in 1975. Percents do not add to totals due to rounding.

Source: U. S. Department of Labor, Bureau of Labor Statistics, October 1965.

Some more detailed information about some of the occupations with which vocational educators are concerned may be helpful. For example, engineering and science technicians (excluding draftsmen and surveyors) increased from about 450,000 in 1960 to 260,000 in mid-1964. The rapid growth in demand for products of industries which employ large numbers of technicians was a major factor in causing this increase. The large increase in research and development activity and expenditures in defense and space exploration accounted for the rise in technician employment. According to the Bureau of Labor Statistics, employment requirements for engineering and science technicians are expected to increase by nearly two-thirds between 1964 and 1975, to about 1,025,000.

The employment of clerical and kindred workers rose almost steadily between 1947 and 1964--from 7.2 million to almost 10.7 million--an increase of 48 percent. Additional record-keeping and paperwork and the growth in size and complexity of modern business organizations and government have contributed to the rise in the employment of clerical workers. Employment requirements for clerical and kindred workers are expected to increase by about one-third during the 1964-75 period, rising from 10.7 million to 14.2 million.

The employment of craftsmen has risen erratically from less than 7.8 million in 1947 to nearly 9 million in 1964. Employment trends during the post-World War II period varied considerably among the individual skilled occupations.

Employment requirements for craftsmen, foremen, and kindred workers are expected to rise by about one-fourth between 1964 and 1975, increasing from 9 million to 11.2 million. Industrial growth and increasing business activity are the major factors expected to increase the need for skilled workers. Employment of mechanics and repairmen should continue to grow more rapidly than the skilled workforce as a whole. The requirements for airplane and automotive mechanics are expected to increase significantly during the 1964-75 period. On the other hand, employment requirements for machinists are expected to decline slightly (approximately 3 percent) during this period. The greater use of numerically controlled machine tools and other new metal working methods should reduce employment requirements for machinists, despite an expected growth in metal working activities.

In 1964, employment of semiskilled workers (operatives) had reached 12.9 million, the highest number on record. About 6 out of 10 operatives are employed in manufacturing. Large numbers are employed as assemblers, checkers, examiners, inspectors, drivers, and packers. The employment requirements for operatives are expected to rise by about 15 percent between 1964 and 1975, rising to 14.7 million in 1975. This increase will take place despite the technological impact which will affect many semiskilled jobs.

The rate of employment growth during the 1947-64 period for service workers was exceeded only by that for professional, technical, and kindred workers. The service worker occupational group represented about 13 percent of all employed persons in 1964, and included such diverse groups as private household workers, protective service workers, and waiters and waitresses. Included among the nearly 7 million service workers employed outside private homes were thousands of nurses' aides and other attendants in hospitals and similar institutions, waiters and waitresses, cooks and kitchen workers, barbers, beauty operators, maids, and porters.

Employment requirements in service occupations are expected to increase by about two-fifths between 1964 and 1975, to about 13 million. The greatest growth in requirements during the 1964-75 period is expected to be for policemen and other protective service workers; attendants in hospitals and in businesses rendering other professional and personal services; nurses' aides; beauty operators; cooks and waiters and others who prepare and serve meals outside private homes.

Problems of Vocational Guidance

Man's wisdom is a function of his ability to learn from available information and to adjust to new situations uncovered by this information. Vocational guidance, in a democratic society, is essentially the process of exposing the person who is being guided to occupational information so that he can do his own decision-making.

So much of our attention has been directed to the vocational guidance of youngsters that many of us fail to note that adults are also in need of vocational guidance. For example, those of you in the field of vocational education have long been aware of the declining need for workers in agricultural activities. You have also heard about the continuing shortage for teachers of mathematics and the sciences. Let me cite some data which, I believe, ought to raise some questions about the effectiveness of communication of information in our society.

The most recent data on high school teaching certification show that in 1964, 996 male college students completed their high school teaching certificate for agriculture. In 1965, the number completing their teaching requirements for agriculture will rise more than 15 percent to 1,150. Although it is true that the long-term trend for those preparing to teach in agriculture has been downward (1950--3,294; 1965--1,150) one can wonder about the effectiveness of transmitting information in the guidance process.

For example, 272 new teachers in agriculture were employed in 27 states in 1964-65 as compared with a new supply of 481 agriculture teachers. At the same time, the supply of mathematic teachers fell short of demand in 20 states. The demand for chemistry teachers exceeded the supply in 13 states and the need for teachers of physics was not met in 12 states.[10] One can ask what is wrong with the communication system in the most industrialized nation in the world when the plea for more teachers of science is not fully heeded?

This is not to suggest that those who were recently certificated in agriculture remained unemployed. Probably, most of them did get jobs. One can ask, however, if this is an efficient use of time and manpower. If the time spent for meeting the certification requirements for agriculture had been spent otherwise, it is fair to conclude that the student and society might have considered this a more efficient use of human resources.

It is apparent that a strong program of counseling and guidance is not only necessary for our youngsters, but on the basis of certification data it would appear that a similar program would be helpful for college counseling.

Let us now return to the young in need of vocational guidance.

The short review of some economic and social changes which were discussed in the previous section raises some vital questions for those concerned with vocational guidance as well as those who prepare youngsters for the world of work through our vocational education system.

The changes can be quickly summarized. We have had a massive shift in employment away from agriculture to other economic activities. Jobs in trade, government, service, finance, insurance, real estate, transportation, and public utilities have grown faster than in other activities. White-collar and service jobs have had the most rapid growth since the end of World War II and will apparently expand more rapidly than other kinds of jobs in the future.

Women have become a mainstay in our labor force. There is little likelihood that any basic change will occur in the pattern of their work careers.

We have a mobile labor force. Many of the young persons you train will not remain in your communities after they complete training.

Technological developments constantly create change and call for the ability to adapt to new jobs and new skills. Workers who make, on the average, six job changes during 40 years of working life must be able to meet job requirements if they are to continue to be productive.

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[10] Teacher Supply and Demand in Public Schools, 1965 (Washington: National Education Association, Research Division, 1965) Research Report 1965-R10.

Challenges to Vocational Guidance

Each one of the changes referred to above poses challenges to those who provide vocational guidance and those who prepare youngsters for work. The youngsters you guide must be alerted to the kind of world they will face. The kinds of courses offered by vocational educators must be in tune with current reality and not the past. The information developed by the Department of Labor suggests that training must be offered for jobs in trade, in office work, and service functions. Less emphasis must be placed on training for agricultural employment and home economics.

The kind of vocational guidance and training given to young women must take into account the fact that at least 1 out of 2 women in this country will have three careers. Homemaking can no longer dominate the kind of training offered by vocational education, if 1 out of 3 women may end up doing office work.

Vocational educators and those who provide vocational guidance must also recognize that many of the young persons they educate and guide will leave their home communities. This raises the extremely difficult question of training for what kind of job. Beyond the needs of local employers, what kind of training should be offered if as many as 1 out of 2 youngsters will leave the area in which they were trained?

Does this call for a new approach to vocational education? Instead of training for specific skills and jobs should an attempt be made to provide broad skill training for job families rather than specific jobs?

If we are to stay with specific occupational training should not a good share of this training be related to national occupational trends so that youngsters will have the skills to make them employable in more occupations which show the greatest growth potential?

How can local educators and communities meet the need for a wide variety of occupations? Today, about 4.6 million persons are enrolled in federally aided vocational classes and only about a quarter of a million, or 5 percent, are in area technical education programs. Should there be a massive reversal of these figures, especially in rural districts, so that the greatest emphasis would be on area schools which can provide the wide background necessary for job flexibility and mobility.

How can we provide youngsters, through guidance or training, with the attitudes which will enable them to accept change as normal so that they will recognize that training and retraining may be a permanent part of their work life? Should we develop institutional devices so that retraining for workers will be automatically available after they have been in the labor force for a certain number of years?

Are guidance counselors qualified to provide the framework of flexibility and adjustment to change? Can we periodically retrain counselors to keep them abreast of our changing economy?

The posing of the challenges and questions to vocational guidance is fairly easy. The solutions and responses to change are not as easily available. Counselors concerned with vocational education must recognize that the young persons they are counseling in vocational education schools are going through an institution which is undergoing basic change. The adjustment to change in this institution will probably not take place as quickly as needed. This calls for imaginative and creative counseling which may, and should, in many cases, break precedent with accepted means of counseling.

Challenges to Manpower Economics

Many of the same problems which face the counselor now face those of us concerned with the very practical problem of implementing recent legislation concerned with vocational education.

I especially refer to the Vocational Education Act of 1963 which has officially introduced a new element in the relationship between vocational education and manpower requirements. The Act very properly calls for a responsiveness and sensitivity of vocational training to changing occupational requirements which, heretofore did not exist.

As many of you know, the Panel of Consultants on Vocational Education, which was convened at President Kennedy's request to review and evaluate past vocational education legislation, stressed that, "Education for occupational competency should be carefully correlated with the possibility of employment."[11] The panel recommended that local, State and Federal employment service reports and projections be made available to all schools so that this objective could be achieved.[12]

These recommendations of the panel were eventually incorporated into the Vocational Education Act of 1963 signed into law by President Johnson on December 18, 1963. In order for a State to receive its allotment of Federal funds, it must, under the new Act, submit to the Commissioner of Education a plan containing policies and procedures which insure that due consideration will be given to the results of periodic evaluations of State and local vocational education programs and services in light of "...information regarding current and projected manpower needs and job opportunities..." (sec. 5 (a) (2), Public Law 88-210).

The plan must also provide for a cooperative arrangement with the system of public employment offices in the State so that the employment offices will make available to the State board administering vocational education and local educational agencies occupational information regarding reasonable prospects of employment in the community and elsewhere. This information will be used to provide vocational guidance and counseling for students and to determine the occupations for which persons are to be trained.

In turn, the guidance and counseling personnel of the State board and local agencies are to make available to public employment offices, for use in occupational guidance and placement, information about the occupational qualifications of those who leave or complete vocational education courses and schools.

The challenge has now been put to the Department of Labor and the Department of Health, Education, and Welfare to implement the section of the Act relating training to manpower needs.

This calls for "shirt-sleeve" economics to enable the local Employment Service representative to provide the local vocational educator with some specific information on the number of machinists or automotive mechanics he should train for the next several years. This information must be translated back to important purchasing, building as well as curriculum decisions. The local educator will have to make his decisions to buy typewriters, machine tools, or electronic test equipment on the employment projections he received.

In response to the Department of Labor's responsibilities under the Vocational Act, the Manpower Administration has asked the Bureau of Labor Statistics and the Bureau of Employment Service to prepare a practical guidebook for occupational forecasting for use by the local Employment Service in carrying out its responsibilities under the Vocational Education Act. An interagency committee has also been established to work on the question of occupational forecasting and to set up administrative procedures so that HEW and Labor will carry out their charges under the Vocational Act both efficiently and effectively.

The Manpower Administration of the Department of Labor has recognized that occupational forecasting must be improved if counselors, educators, and administrators are to be provided with the tools necessary for assisting young persons who need vocational guidance. For this reason, the Research Office of the Manpower Administration has sponsored several research projects designed to improve occupational projections. The Bureau of Labor Statistics, Temple University, the University of Colorado, and Harvard University are all working on research projects which, hopefully, will increase our knowledge about forecasting as well as improve the techniques now being used to project manpower requirements.

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[11] Education for A Changing World of Work, Report of the Panel of Consultants on Vocational Education (Washington: U. S. Department of Health, Education, & Welfare, Office of Education, 1963), OE 80021, p. 222.

[12] Howard Rosen, Vocational Education and Manpower Needs (Washington: U. S. Department of Labor, Manpower Administration, Office of Manpower, Automation and Training, December, 1964), Preprint No. 5; also published Occupational Outlook Quarterly, December 1964, pp. 5-8.

The real problems of mobility and preparation for local community needs, the impact of technology and shifts in industrial and occupational employment must now all be translated into very specific information which will affect and change the vocational education system in the United States. I can assure you that those of us in the Department of Labor and HEW who are concerned with these problems do not have a bureaucratic approach. We recognize that both agencies are being put to the test by the Vocational Education Act. Only a genuing cooperative effort will enable us to meet our joint responsibilities.

Above all, we recognize that the stakes are high. The kind of job we do in making vocational education viable and responsive to change will affect the lives of millions of our youngsters. Their earnings, their employment, their job satisfaction, personal happiness, and their contributions to the Nation's advancement are all related to the effectiveness of our guidance and training.

As long as the Federal Government and its representatives in local areas are engaged in supplying information on future manpower requirements, it appears that we will have to develop a systematic approach which will take into account the supply (the number of workers being trained by occupation) so that the relationship between supply and demand will be fairly well-balanced. If this is not done, excesses or shortages of workers in particular occupations could become commonplace.

The most important point to keep in mind here is how is this balance to be effected? In a democratic society this can only be done by the "carrot" approach through allocation of funds or scholarships. Any other approach would violate a basic democratic right which gives the individual the right to select his own life's work.

Research Areas

Your chairman has asked that I suggest some subjects that require further research. Many of the subjects covered in this paper have already indicated that we have a large number of unanswered questions in vocational education, vocational guidance, and manpower economics that can only be answered by further investigation and research.

I should like to be presumptuous and first suggest that since we face a large and firmly established institution that must adjust to change, that a major research effort first be directed to study how vocational education can be made to change.

When we turn to manpower economics, it is necessary to point to several weak points in our armor. The first weakness is the occupational statistics which need to be improved. Those of us who work with the available occupational data are acutely aware of their deficiencies. We also recognize that the data we work with are not current and should be brought up to date. This suggests two areas worthy of detailed examination. The first calls for a study of the accuracy of occupational data and how they can be improved and more adequately reflect economic, social, and technological change. The second point refers to the operational problem of how can more meaningful occupational data be made available more frequently than the inter-censal data.

The whole area of occupational forecasting is wide open for research. Although the Bureau of Labor Statistics has done a creditable job in working with limited resources, the Bureau is the first to acknowledge that improvements are needed in the methodology and techniques of forecasting.

We still do not have definitive answers to whether specific occupational training is more valid than training for families of skills. Educators and manpower economists should join forces in doing research on this difficult question. The answers may very well be that both types of training are necessary. The final answers await further research.

More information is needed about the long-term work careers of workers. The bare-bone patterns of work careers need additional research which will provide the flesh that makes up the total worker. Longitudinal studies in depth can help to supply information on the work pattern of workers as they move in and out of the labor force.

We have never squarely faced the real manpower needs of American industry. Many industrial personnel people have argued that industry must "un-teach" youngsters who come through vocational schools. More information is needed on this issue. Do we need a new orientation for vocational education? Can we offset the criticism of industry by expanding combination work and study programs?

We need to know more about the kind of vocational guidance young women need. The question of the communication process in vocational guidance has never been fully explored. We are all aware that not enough vocational guidance has been offered to both youth and adults. We are also realizing that even when information is available and transmitted that decisions are made which apparently are not based upon facts. The decision-making process in "selecting" careers needs further exploration.

We do not know who uses vocational guidance information. We do not know how it is used and we certainly do not know the effectiveness of vocational guidance material.

I am happy to say that the Research Office of the Manpower Administration is using some of its research funds for exploring several of the questions raised here. We expect that work being done by Dr. Herbert S. Parnes at The Ohio State University should eventually supply us with definitive information on the work career patterns of American workers. We are also working with the Women's Bureau of the Department of Labor in exploring the vocational guidance needs of mature women re-entering the labor force for their third career.

There is one important omission in the subjects covered in my earlier remarks. No mention has been made about the contribution of vocational education to the employment problems of Negro workers and other disadvantaged persons. Now that the walls of discrimination are coming down we must see to it that vocational education will prepare Negro workers for the new employment opportunities which will be made available to them.

The practice of using vocational schools in urban centers as dumping grounds for the less able must be discontinued. The results of the Experimental and Demonstration programs under the Manpower Act have shown that many disadvantaged workers can be salvaged and rehabilitated under the proper circumstances. The phrase "proper circumstances" goes to the heart of the problem. If vocational education is to take on a new look and be a major contributor in helping us save those whose lives have been crippled by discrimination, uninterested teachers, broken homes, and poverty, it will have to study the pioneering Experimental and Demonstration programs under the Manpower Act.

This may mean that you will have to develop new curricula, use new teaching techniques, and re-orient your teachers and guidance specialists so that they are more sympathetic to the plight of those they serve. I suggest that your entire educational approach may have to be re-examined and re-directed. The new programs and approaches to which I am referring can only be fully explored through a vigorous research program.

A detailed listing of the important problems requiring additional research will not bring about the changes which must occur in vocational education if it is to remain a viable force in training this country's labor force. These changes can only take place when those in positions of responsibility recognize the need for change and, after studying the best possible information available, begin to make the decisions which will enable vocational education to produce the kind of labor force needed for tomorrow's world.

A REACTION TO ROSEN'S PRESENTATION ON MANPOWER AND LABOR ECONOMICS: IMPLICATIONS FOR GUIDANCE IN VOCATIONAL-TECHNICAL EDUCATION

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Howard Rosen's paper does an admirable job of identifying the structural changes in the economy that have implications for manpower planning and vocational education. Recent trends in industrial and occupational structure, in the labor force participation of women, and in the rate and qualitative character of technological change are clearly of profound importance to those institutions concerned with the preparation of individuals for the world of work.

There is little in Dr. Rosen's paper with which I would disagree, unless perhaps it is the emphasis that he places on formal vocational education as the builder of the work skills of the nation. Without denying the importance of vocational education, it must nevertheless be recognized that methods of skill acquisition are diverse in all countries, and perhaps nowhere more so than in the United States. Apprenticeship programs, on-the-job training, military service training, and work experience are all complements to or substitutes for vocational education. In a survey of a national sample of the labor force made by the United States Department of Labor in 1963, about two-fifths of all skilled workers reported "formal" methods of having learned their jobs (including military service and apprenticeship, as well as school), while two-thirds reported formal or informal on-the-job training, and almost half reported just "picking up" their skill through work experience or from friends and relatives. (The various methods reported were not mutually exclusive).

While agreeing with Rosen's diagnosis of the implications of labor force changes for vocational education, I should like to raise the question whether the entire concept of vocational education needs to be re-thought. Traditionally, the concern of those in vocational education has been with formal instruction aimed at specific preparation for occupations below the professional level. From the standpoint of either educational or manpower policy, this does not seem to me to be the best way of viewing the role of one responsible for adequate vocational preparation, because it tends to exclude from his concern many questions and considerations that are of basic importance.

I would urge those interested in this field to think in terms of total vocational preparation: i.e., all those processes that prepare individuals for the world of work. In this context, it is immediately apparent that almost all types of education have vocational implications. Moreover, it is equally apparent that much of vocational preparation takes place outside the formal educational system. Thus, the following kinds of questions suggest themselves:

1. What combinations of formal and nonformal education (or training) constitute the best preparation for various types of work?

2. What combination of general education and specific vocational preparation is the best mix for assuring the kind of flexibility in workers required by rapid technological change?

3. What aspects of the formal educational system have vocational implications, e.g., in developing work skills; in inculcating receptive attitudes toward change; in developing in workers desirable qualities other than technical skills; and in providing information about the world of work that will contribute to meaningful occupational choice?

These are questions that are much broader than those generally entertained by practitioners in vocational education. They are nevertheless vitally important questions that someone must assume the responsibility for answering. Perhaps those in vocational education do not regard this as a congenial role, or lack some confidence in their ability to fill it. If so, I would urge that at the very least they must be willing to join forces with manpower economists, for the latter do not have the competence to go it alone.

A SOCIOLOGICAL APPROACH TO THE ANALYSIS OF PREPARATION FOR WORK LIFE *

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Statistics are rarely exciting. A major exception was the report from the Bureau of Labor Statistics that unemployment had fallen to 4.3% in October, 1965 on a seasonally-adjusted basis. This is the lowest rate attained since the high point of the mid-1950's and is close to the goal of 4% which was set by President Kennedy's Council of Economic Advisors in 1961. The result is a triumph for the neo-Keynsian approach of Walter Heller, the former chairman of the Council, an approach which sought to create jobs for idle men by increasing purchasing power and investment incentives through fiscal and monetary activities of the government.

What is important about the low unemployment figure is that it appears close to the limit of what purely economic policies can accomplish. Labor Secretary W. Willard Wirtz stated recently: "It appears unlikely that unemployment among these groups in which it is most serious--especially younger workers and minority groups--will be substantially reduced by any foreseeable economic expansion."[1] Instead, Secretary Wirtz urged a "case by case, person by person" approach. He meant, for example, that while over-all unemployment is down, the rate for non-whites was still double the rate for whites, and for teenagers was three times as high. On the other hand, the rate for married men was only 2.1% and was at a ten-year low, a figure which appears to be practically irreducible in view of the need to allow for a certain amount of frictional unemployment (unemployment due to shifts in jobs from one part of the country to another and the like). If this analysis is correct, attention will shift from economic approaches to psychological and social approaches which involve providing a better fit between the man and the job by changing the man rather than, as in the economic approach, changing the market approach, changing the market in which he offers his services. As I shall point out later, the simple model suggested by "the man and the job" needs major revision. Nevertheless, it would seem that the role of counselors and the tasks that will be demanded of them will enormously increase in the next several years. It seems possible, in other words, for our economy to generate as many jobs as are called for to maintain the standard of living and the level of spending which our society considers healthy. The question is whether it is possible for individuals to be as easily made available for the jobs that are produced through economic remedies. That, of course, is one of the major contributions the counselor can make. I am, then, going to assume that the major problem with which we shall be faced in the next few years will not be that of an insufficient supply of jobs.

A second assumption I shall make is that people must remain at work in gainful occupations. That is, I am assuming that work will continue to be, as it has been in the past, the major source of income, status, and self-fullfillment. I call that an assumption because there are voices in the distance which are beginning to raise some doubts. For example, Wilensky concludes:

> "...the typical American man is lightly committed to his work. He may be reliable and disciplined on the job, he may talk it up or gripe about it, but he neither throws himself into it nor feels that it violates his better self."[2]

The economist Theobald[3] goes much further and foresees a period when a very high proportion of the population will be "at leisure." He looks ahead to a time when the shuttles will at last run themselves and a small number of highly skilled education professionals and managers will do most of the work of society. Should such a state of affairs ever come, then we shall have to look to activities other than the usual employment for sources of income, status and self-fulfillment. Theobald proposes that the persons who are "at leisure" be provided with a guaranteed income so that purchasing power is kept up. Such persons will have to search for methods of providing status and self respect in recreational activities, activities which serve the community, as well as other activities which we can hardly foresee at this time. In spite of such long-range forecasts, it seems true for the near future that work will remain the necessary condition, as Wilensky himself notes, for "drawing the individual into the main stream of social life; whatever work ties are severed, there is a decline in community participation and a related sense of isolation."[4] (I need hardly add that even should such a millenium arrive, it would not mean the end of the vocational guidance counselor. On the contrary, there would seem to be more guidance than ever required, to effect the shift of persons from a life in which they are accustomed to securing their satisfactions in and through work to one in which they must do so in other ways. The term "vocation" may assume its generic meaning of "calling." The counselor would not even have to change his name.)

Given the two assumptions I have just sketched--first, that jobs will be available for people to be counseled into, and second, that the job will remain the major self-fulfilling and status-giving activity of the future, the general subject I wish to address myself to is recent sociological research on occupations and industry that would seem to be relevant to the counseling process. I believe that I can sum up what I feel to be possibly helpful contributions in a brief preliminary statement which I will then elaborate. The statement is as follows: in sociological terms, preparation of an individual for the world of work means four different kinds of participation. He is being prepared for a life in an organization, for a set of role relationships, for a level and kind of consumption, and for an occupational history.

1. PREPARATION FOR LIFE IN AN ORGANIZATION.

If I were to try to state in one sentence what I believe to be the dominant characteristic of modern western urban industrial society, I would say it is the following: Western society seeks to attain all of its larger goals through large-scale organization. Whether the goal is producing goods, healing the sick, protecting society from criminals, protecting society from foreign enemies or educating the young, the characteristic approach is to form an organization with goals and a structure. Although many have lamented the cost to the individual of life in organizations, there does not appear to be on the immediate horizon any alternative which is likely to be even half as successful as organizations have proven to be. The test here is the one that Weber[5] proposed long ago: whenever large-scale formal organizations make their appearance in the modern world, they sweep all other forms of formal organizations before them.

The distribution of employees in the United States by size of firm is presented in the table below.

DISTRIBUTION OF CIVILIAN EMPLOYEES BY SIZE OF ORGANIZATION

SIZE OF FIRM (no. of employees)	NUMBER OF FIRMS (%)		TOTAL EMPLOYED (%)	
1-3	57.8	76.6%	7.4	14.8%
4-7	18.8		7.4	
8-19	13.8		12.6	
20-49	5.9		13.8	
50-99	1.9	3.4%	10.2	58.9%
100-249	0.8		12.9	
250-499	0.4		9.4	
500 or more	0.3		26.4	

Source: County Business Patterns: First Quarter, 1962.
Part 1: United States Summary, Tables 1A and 1C.
Bureau of the Census. Percentages calculated from raw data.
Note: Includes mainly those covered in whole or in part by the Social Security Program. Hence, partly or wholly excluded are: certain farm workers (about one-fourth), domestic workers, self-employed persons, Federal civilian employees, and employees of state and local government. Excluded also are railroad employees subject to the Railroad Retirement Act and employees on ocean borne vessels. In all, excluded persons make up about one-third of all employed.

However, see Footnote 6 where the attempt is made to include most of these excluded categories.

From this table a striking fact emerges. On the one hand, it is clear that the United States is a nation of small firms, for over three quarters of firms employ 7 or fewer workers; those employing 50 or more make up a scant 3.4%. On the other hand, the three quarters of all firms, when put together, account for only one seventh of all employees, whereas the tiny group of large firms together account for close to 60% of workers. In general, then we may assert that, although the average firm is small, the average employee works for a large firm. Nor does this present the whole picture, for the data in the table refer only to persons in private employment. The government, of course, is a large organization and the data reveal that in 1962 about one in seven of all the employed (some 9.2 million civilians) worked for the government in one capacity or another. Even the professions, which many persons think of as being practiced privately or in relatively small groups are not as exceptional as is often thought. The dominant situation for the professional is that of a salaried employee. The examples that come to mind are many. Accountants, airplane pilots, college presidents, dietitians, draftsmen, editors, engineers, scientists, social workers, and of course teachers as well as counselors are typically found working in formal organizations, and a high proportion in large organizations.

Certain implications follow from the predominance of the organizational context in the life of the average worker. First, a life in an organization means a position in an hierarchy of authority. An important consideration in the preparation of the individual, then, would include training for the handling of and adjustment to authority. Authority can be of different kinds--charismatic (based on personal devotion to a leader of remarkable qualities), traditional, based on rules (or what may be thought to be the rights that inhere in a particular position), or based upon expertise or the reputation of the person who wields authority. Different types of background and different types of values will mean that the individual that has difficulty with one kind of authority may be quite at home with a different kind. There are certainly no simple relationships between personality and authority although, of course, certain persons have difficulty with authority of any kind. Organizations may be analyzed in terms of the kind of authority structure which they provide but no organization is devoid of some type of assumptions about authority. Organizations are always coordinated structures and this means that some persons must make critical decisions on work-flow and on the manner in which the various parts of the organization will be articulated.

Second, the quest for security has come increasingly to mean associating oneself with a large organization which can offer tenure and protection against the vicissitudes of life, rather than attempting to equip oneself with skills which are equal to any emergency. In earlier days, persons who went to work for government were often criticized as being too security-minded. However, as organizations increase in size, this motive for a high proportion of workers cannot be dismissed. It is particularly important for workers at the lower end of the prestige hierarchy, many of whom feel that any type of enduring employment is superior to the chaotic work experience that most of them are forced to endure. The ability of the individual to do without organizational supports in his quest for security might be taken into account by the vocational counselor.

Third, it has been the finding of a large number of studies that persons do not experience their major friendships and intimate relationships at work.[7] Although they will make friends at work, usually these friendships are not carried over to after-work hours. Instead, the life of an organization is likely to consist of a set of impersonal relationships. In the classical case, organizations are set up in order to control the over-personalization of relationships, so that decisions will be made on the basis of the merits of the case rather than the feelings persons have towards one another or their own impulses. It is easy to exaggerate the matter but there seems little doubt that effective functioning in an organization means being able to handle impersonal relationships, that is, a certain degree of detachment from the work.

Fourth, organizations are set up to maximize the probability of success of goal-attainment. Consequently, flow charts and other methods for coordinating effort assume that most of the problems of attaining the goal of the organization have been solved. Inevitably then, work goes by a routine, and this is true however exciting one's job might be or however important the work of the organization is to the society. The employee, then, can expect that much of his day will be spent in routine, repetitive activities with excitement coming rarely. The ability to tolerate such routine may be of importance in particular cases.

Five, an obverse problem is presented by the fact that, in reality, no organization has solved all problems necessary to the attainment of its goals but instead, each organization has great needs for initiative and creativity on the part of their employees, although that initiative and creativity will have to be displayed with a context of a set of rules. Argyris[8] sees an inevitable conflict between the needs of the individual for creative expression and the demands of the organization for conformity. I regard it as dubious[9] that there is such conflict, at least as serious as Argyris suggests. Still, some conflict is not only likely but desirable for both the organization and the individual. It is hardly surprising that the organization resists creativity since the only test, ultimately, of the value of a new idea is that it stands up well in the face of resistance. The creative individual, then, should not be repulsed by the structure of organizations, partly because there is no alternative for the organizations provide him with the equipment and the resources necessary to develop his ideas, but also because organizations need the contribution of the iconoclast, and can be made to respond to his original contributions. Such is particularly the case for scientists, research personnel and others.

Sixth, the data on job-shifting[10] argue strongly for the conclusion that the average worker holds many jobs in a lifetime. A high proportion of these will involve different employers and therefore, different organizations. The individual will therefore find it wise and realistic to maintain a certain distance from both the job and the organization. Loyalty to a particular organization may result in a great shock to the individual when he finds the organization cannot keep him on as an employee. Indeed, organizations are of two minds about loyalty. On the one hand, they desire persons who feel attached to the organization for this often means a greater willingness to tolerate delay in promotions and salary increases, and other types of irritations that the individual may have to put up with. On the other hand, persons may be too loyal, so that the organization will be unable to get rid of them when they are no longer suited to the organization's needs. It may then be not only to the individual's advantage but to the organization's advantage as well for persons to move from one organization to another after moderate periods in the organization. Such inter-organizational shifts suggest a revision of insurance and annuity arrangements so that a higher proportion are portable.

Seventh, and finally, attention needs to be given to the fact that mobility within an organization is not always upward. Perhaps because of our past experience with economic growth and because of our American optimism, we have tended to ignore the phenomenon of downward mobility. Inevitably, even in a growing economy, everyone will sooner or later experience some downward mobility although, for some, it may occur right at the end of their work careers. Most experience it much earlier. Much more research must be devoted to the social and psychological consequences of demotion. Organizations have many ways of handling demotion so as to soften its impact, such as kicking people upstairs, shifting them to other parts of the company to less demanding jobs, and other ingenious devices.[11] It seems to me that the reality of demotion must be faced as inevitable consequence of a desire of organizations to retain flexibility in their attempts to serve the society. So, it becomes important that the individual expect that his organizational career will have many directions, some up, some sideways, some down.

2. PREPARATION FOR A SET OF ROLE RELATIONSHIPS.

Preparation for the world of work involves preparation for a certain pattern of interaction with other persons on the job. What is suggested here is the desirability of learning to analyze a job in terms of role sets. What is needed is a new Dictionary of Occupational Titles in which job descriptions will be in terms of characteristic interactions rather than specific physical activities. For example, here is the description of "newspaper carrier" in the Dictionary of Occupational Titles (Second Edition):

> "Distributed newspapers to regular subscribers on a specified route. Collects accounts at regular intervals and delivers or mails collections to superior. Attends periodic meetings for instructions. Contacts new subscribers and writes subscriptions."

Although one can infer certain interactions from this description, a description in terms of role sets might be better put as follows:

> "Key persons in the role set of newspaper carrier include the following: (1) The Customer. Customers like to receive their newspaper in a convenient place, unaffected by rain, snow, or wind. They can rarely tolerate a delay in delivery longer than ten minutes off one's usual time. They must be taught to telephone newspaper carrier at home rather than telephone the newspaper with a complaint. Many do not pay promptly but must be re-visited several times. Most of them are chronically short of change. All of them desire that the newspaper carrier shall stay off the grass, stay out of the flower gardens, and indeed, would prefer that he not step on the property at all. Should the newspaper carrier be bitten by the customer's dog, the customer

> is likely to blame the newspaper carrier for upsetting the dog. (2) Non-Customers. Other persons who are not customers nevertheless may give the newsboy trouble since they object to his taking short cuts across their property. They also have dogs. (3) The Superior. This individual tries to maintain the fiction that the newspaper carrier is an independent business man. Therefore, he has periodic meetings with the newspaper carriers in order to "counsel" them on their business activities. As a matter of fact, he spends most of his time pressuring the newspaper carrier to increase the number of new subscribers. His pep talks are frequent and must be endured. (4) Other Newscarriers. One occasionally encounters persons who carry newspapers for competing companies (or even for the same company) who attempt to take away one's subscribers. (5) School Teachers. The newspaper carrier must particularly guard against the possibility that failure to keep up his schoolwork or infractions of disciplinary rules may lead to his being kept after school. Should this occur, he may then be late in picking up his papers and delivering them and thus, suffer the unfavorable attention of both his superior and his customers. The resultant role conflict may, in addition, produce feelings of guilt on the part of the newspaper carrier, thus, affecting his degree of job satisfaction."

Although the above job description is facetious, it illustrates the kind of job descriptions that I think will have to be written to be of assistance to the guidance counselor in his judgment of whether the particular client that he deals with can handle the position that may be available. It may also be possible to train the client in the ability to make this kind of analysis of the job at a relatively early stage in his period of employment. He might be taught to draw up a small chart on which are listed the key persons whom he must satisfy, who evaluate his work, who depend on it, and on whom he will depend for satisfactory job accomplishment as well as for other goals which he may have. In a factory, this will include certain fellow workers, the foreman, workers in other shops, one's own supervisor and, perhaps, a helper. In a restaurant, as Whyte's research has shown clearly, a major element in the role set is the customer who will put direct pressure on the waitress and cashier. In the professions, one will include the client, other professionals with whom one works as a team, and the members of the profession in general with whom one enjoys a colleague relationship and whom one regards as a reference group. Perhaps the outstanding study which suggests the importance of such role relationships is that carried out by Kahn and his associates[13] on organizational stress. They found that role conflict had been experienced by about one half of the workers surveyed in their national study.

3. PREPARATION FOR A LEVEL OF CONSUMPTION.

Even for the person whose work is intrinsically satisfying, it is also a means of making a living and therefore a means of maintaining a certain standard of living. More than that, his job is a source of identity and pride; it is both a means for attaining, as well as a part of, a certain style of life. We are saying here that the individual will usually desire not only a dignified job but one that will make possible a dignified life, whatever his standard of dignity is. Kinds of dignity are defined differently in different social classes and subcultures. A study by Form and Stone[14] in Lansing, Michigan found the following kinds of social class differences. A sample was asked the following question: "If your daughter came home one night and told you she was in love with a young man you didn't know, what would be the first question you would ask about him?" The lower stratum informants said they would ask whether the stranger had a good job and was a good provider. The middle stratum was more concerned with his specific occupation and his mobility prospects on the job, his religion, and the reputation of his family. The upper stratum's concern was with education, religion, and financial position and particularly with family. The middle stratum asked the most questions, was the most reluctant to arrive at any final decision, and asked more questions to check up on the genuineness of the love relationship. Middle class persons seemed to emphasize, as a value, the importance of choice, and consequently were reluctant to push their daughter definitely one way or another. They felt, however, that only if the love relationship were extremely strong, could individual choice prevail. Turner,[15] in a study of high school students in Los Angeles, did not find large differences in values between social classes but did discover that individualism and self-reliance were more important to middle class teenagers than they were to working-class teenagers. Such value differences, in so far as they exist, would appear to be important in counseling the client into different types of jobs. Attention must be paid also to ethnic differences, as well as those associated with location, religion, and sex.[16]

4. PREPARATION FOR OCCUPATIONAL CAREER

The definition of the term "career" is the subject of some controversy. Some, like Wilensky,[17] prefer to limit the concept to an "orderly" work history, one in which each job is preparatory to the next job, and the succeeding is either at the same or higher level of prestige. I do not believe it is necessary to restrict the concept only to that kind of situation for if one does, one cannot avoid the conclusion that Wilensky himself reaches when he notes that a very high proportion of his subjects have highly disorderly careers. I think it is possible to use the concept to refer to a succession of positions which have a pattern which is, to some extent, predictable and controllable. It may include a period of unemployment provided that the individual regards that as normal and has ways of handling it. Thus, many seasonal workers expect to be unemployed for part of the year, organize their lives around such unemployment and would be disturbed if it should be interfered with.

As we pointed out above, a high proportion of the population exhibits a great many job changes, but this is no cause for despair nor for the conclusion that the job history of most persons has no structure nor order to it. It should, instead, be an encouragement to search for whatever bases of order there are, even for brief periods. A person's job history may take on a predictable structure for perhaps only three or four years at a time. It is, I think, a part of the task of a counselor to show how a career can be developed by the individual even though several job changes may be involved in it.

Many observers have insisted that we must be prepared to think of a succession of jobs for the individual in the course of a lifetime and therefore to grapple with the problem of how to predict jobs over a long range. We must, it is said, think in terms of a set of basic skills or orientation which will serve the individual in any work that he might be confronted with in the course of his whole life. I shall comment on this point of view below. Here, I wish to call attention to the converse: if the individual will have many jobs, then he should not be prepared too well for any one of them. Argyris,[18] in a study of a bank, discovered that those who employed the workers had a definite personality type in mind. They sought a person who fitted the sterotype of bank clerk--someone who was unaggressive, obsequious, smiling, able to hold back his feelings, able to tolerate a great deal of frustration, and desirous of security. While it was possible that such persons would do well as cashiers and officers who would have to meet customers, this personality type did not do well as an accountant, or bookkeeper, who worked in the back and did not meet the customer. Such persons needed to be much more aggressive, and able to work fast, and work and daydream at the same time. A person whose personality fits a particular job well might thus be a person whom it is impossible to shift from one job to another. Banks currently are pursuing a much more aggressive advertising policy as well as trying to compete actively with other forms of investment. As a consequence a much more aggressive, salesman-type of person is needed than the banks find that they now have.

The individual, therefore, that tries to prepare himself for an organizational requirement would find it to his own interest not to prepare too closely. The very tightness of the fit between his personality and the job requirement may mean that he is not a good prospect for the new job which will surely appear in the company five years later, or even for his present job if it should change, as is quite likely, given the rapidity of technological change in organizations.

Something like this mechanism is at work, in my judgment, in the oft-noted drive of professionals for autonomy. There seems no doubt at all that professionals emphasize their autonomy as a profession in part to protect themselves from the demands of organizational superiors. The structure of the profession is such that it offers them the only possible protection from having their future determined by organizational superiors. The professional desired that the standard of choice and the judgment as to how he is performing shall rest instead with his colleagues. If this is not the case then he becomes beholden to the organization, or to his superior who may need him at one time, but be able to get along without him at a different time.

On the other hand, I do not think that the generalized drive toward professionalization, which is becoming so common is, in fact, a long-range solution to the problem of attempting to maintain one's autonomy in organizations. Although many occupations are seeking to professionalize themselves, in part, to enjoy the benefits that the accepted professions enjoy, not all of them will succeed nor is it desirable that they should. Peral and Riessman[19] have set forth a program of professional elaboration. They suggest that, rather than trying to increase the supply of professionals such as teachers, counselors, and so forth, however desirable that may be, that one should attempt to make the job of existing professionals easier by re-examining the professional position itself. They propose that teachers in schools be each provided with an aide, an assistant, an associate, and a supervising teacher. These non-professional activities become permanent occupations which may be taught to persons with relatively little education although such persons may well go on to get further training which will make them into professionals. They describe the manner in which such non-professionals may be used in community health programs, neighborhood social work programs, and research. In particular, they maintain that non-professionals may be most effective in the neighborhood in which they live. If such persons are poor, from the same neighborhood, and members of the same kinds of groups as the clients, they are able to develop rapport relationships with the client more easily. Such a person may also be a model for the client, particularly the poor one in a way that the middle-class professional often is unable to be. Non-professionals have intimate knowledge of the neighborhood and other kinds of "savvy" which the middle-class professional often lacks. Their style may be quite different--they may hug the client, accept and repay hospitality without feeling that this violates a professional ethic, and talk to clients on a first-name basis. The non-professional's effectiveness is surely related also to the satisfaction which he himself receives from his work, respect gained from performing a meaningful job in cooperation with professionals, learning a useful skill, and helping others. The poverty and deprivation of the poor are, in this manner, converted into assets.

Another approach to careers suggests the value of looking at occupations in terms of the life cycle. Some occupations should be classified and thought of as "entry occupations." These are the jobs which high school students and recent graduates take but which might be thought of as providing opportunities for persons to discover their abilities, their needs, and their identities. The concepts of success or failure on such jobs would not have much meaning. Other jobs are "peak occupations", in the sense they enable an individual to achieve whatever potential is in him. Such peaks, of course, will occur at different points in the life cycle of the individual; for example, for athletes, the period may be one when the individual is very young; for others it may not occur until they reach their fifties. If the latter is the case, then persons may have to be able to postpone gratification and not be under pressure from ethnic groups or other types of pressure to do otherwise as, for example, was the case in Whyte's[20] study of street-corner society. Whyte found that the corner-boy who desired to go on to college had to save his money. However, it was an obligation of corner-boys that any surplus of money should be shared with one's friends. Hence, the person who wanted to get ahead had to foresake his loyalties to his friends.

Some occupations may be conceived of as "transitional occupations." These are occupations that the individual works at between jobs, and which they do not expect to stay in for very long. This is true for many clerical and semi-skilled jobs. Other jobs are "part-time occupations" for persons who supplement the family income such as wives and students. A final set of occupations are those associated with older ages and would be occupations that require maturity and seasoned judgment. The problems of old age are often mainly problems of income rather than of growing old as such. Many occupations are, as a matter of fact, dominated by the elderly, and they include some of the top occupations--top administrative positions in government, corporation and the Congress.

If what we have been saying about occupational preparation is defensible, then two general conclusions would seem to follow.

1. The End of "Vocational" Counseling.

If the career involves work in an organization, a set of role-relationships, a style of life and a lifetime job history, then clearly we need something much broader than counseling which is limited strictly to the job. It will have to include attention to the relationship between the person's job history or career and the life cycle, including marriage and the kinds of demands and discoveries about oneself that come as one has a family and watches it grow up. It includes counseling for a life in an organization. It includes counseling to enable the person to grow into a style of life which includes learning to live in a community and to change from one community to another, securing learning to handle the changing educational requirements of one's children and oneself, using recreational opportunities for self-development, adjusting to the process of moving which may be expected to be relatively frequent, and perhaps providing the individual with some ideas and help in understanding the society and economy which often disturbs his occupational career so rudely.

2. A Change In Approach To The Decision-Making Process.

A paradox is presented by the fact that although the evidence is overwhelming, that most persons will have several jobs in their lifetime, the counselor can, in fact, do little to help him in handling this problem. For such help to be useful would involve a kind of prescience which no one can possibly have. The counselor, in a sense, must be broader as we have suggested above, but at the same time must adopt a relatively short time-span period.

This conclusion follows from exciting new developments which stem from a seminal article by Cyert, Simon, and Trow[21] on the analysis of a business decision. They examined the decision of a firm to consider the installation of electronic equipment and followed it through until the matter was settled. They found that the behavior of persons as they went about making the decision did not follow the traditional model of decision-making. In the latter model persons are conceived of as weighing alternatives in the light of available knowledge and making estimates of probable effects. This the counselor does also. However, they found that, in many cases, persons simply did not have the knowledge even of what the aternatives might be, let alone knowledge of the probable effects of the various alternatives. Much of their time was spent in a process of search for possible alternatives and they did not fool themselves that they had exhausted them all. Simon, in fact, recommends that businessmen cease thinking that they will be able to discover the optimal decision but be happy with one that will simply be satisfactory, that is, will do the job. He, therefore, speaks not of optimizing but of "satisficing."[22]

The approach has been developed into a full theory by Braybrooke and Lindblom.[23] They speak of the strategy of "disjointed incrementalism." In their analysis, decisions are always made on the basis of very limited knowledge, and typically involve a relatively small change from an existing state of affairs. Further, the choice process is a jagged operation consisting of a series of steps, reversible in many places, and marked often by an adjustment of end to means. By the latter, they mean that often persons do not first look at the end that they seek to attain, and then go about looking for means. Rather the means are already settled by the resources that the individual has available or by his skills. He therefore looks for ends which can be attained by the means which he has.

The approach being described leads also to a reconceptualization of the direction of choice. Instead of thinking of a choice as moving toward a solution of a problem, it is thought of as moving away from a situation which is undesirable. The result is a much more modest goal: one seeks not to eliminate a problem but to alleviate it. Braybrooke and Lindblom state the matter as follows:[24]

> "Since policy analysis is incremental, exploratory, serial, and marked by adjustment of ends to means, it is to be expected that stable long-term aspirations will not appear as dominant critical values in the eyes of the analyst. The characteristics of the strategy (of disjointed incrementalism) support and encourage the analyst to identify situations or ills from which to move away rather than goals toward which to move. Even short-term goals are defined largely in terms of reducing some observed ill rather than in terms of a known objective of another sort. For example, values attached to the distribution of income are not likely to be the attainment of any desired pattern of distribution. They are most likely to be the amelioration of a specific social evil, represented by the proportion of the population disqualified for appropriate education solely by inadequate incomes.
>
> These characteristics of the strategy again parallel a feature of incremental politics. Policy aims at suppressing vice even though virtue cannot be defined, let alone concretized as a goal; at attending to mental illness even although we are not sure what attitudes and behaviour are most healthy; at curbing the expansion of the Soviet Union even though we do not know what positive foreign policy objectives to set against the Kremlin's; at reducing the governmental inefficiencies even though we do not know what maximum level of competence we can reasonably expect; at eliminating inequities in the tax structure even though we do not agree on equity; at destroying slums even though we are uncertain about the kinds of homes and neighborhoods in which their occupants should live.
>
> We do not deny the currency of ideological objectives like freedom and security. We suggest, however, that these abstractions only establish the orientation that most analysts in a particular country or culture share. To influence policy choices at points on which analysts differ--or to play any other direct role--they must first be transformed into the more specific values involved in actual policy choices."

These ideas surely have applicability to the counseling process. Not infrequently, as a matter of fact, when persons speak of occupational choices they may do so in negative terms. They do not say "I want to be a carpenter" or "work in an office," necessarily--at least they may be relatively uncertain and vague about what they might like. But they are very definite indeed in stating what they do not like. They may tell us with great feeling that they will not work in a factory, or that they will not consider living in Chicago, or a job "where the boss is right there in the same room with you." For women, job choices are often limited by the fact of their husband's employment or his plans to move. Thus, what the person wants or what may fulfill him most adequately may simply be impossible. The resulting alternatives become much smaller in number and therefore more manageable. If one further recognized that it is not one's task and it is surely an impossible one to try to prepare the person so that he will meet every eventuality throughout his life, then the counselor takes a shorter time perspective. He thinks in incremental terms of assisting the person in career planning for only, say, the next four or five years when one can make reasonable forecasts about the nature of the job market and the kinds of skills that will be in demand for the job that the counselee can do.

Finally, if one cannot prepare the client for the uncertain future, then perhaps one can train him for uncertainty. Fox,[24] in a study of medical students, found that it was precisely this kind of training that occurred. Medical students were early introduced to the fact that no matter how hard they might study, their knowledge would surely be limited since they could not possibly cover everything. Therefore, in making a medical diagnosis, they could be wrong by virtue of their own limited knowledge. But even worse, they might be wrong because of the limitations of medical knowledge in general--perhaps nobody knew. It was important for the student to learn to distinguish between these two kinds of uncertainty. So, too, the client might be trained to distinguish between situations in which no one can get any help--such as predicting what one's job will be like ten years from now--and situations in which help is attainable from agencies in the neighborhood, including the counselor.

Footnotes and References

* Slightly amended version of the paper presented to A National Interdisciplinary Seminar on Guidance in Vocational Education: Guidelines for Research and Practice, held at the Ohio State University, Columbus, Ohio, January 12-14, 1966. Paper presented on January 12.

1 Quoted in The Washington Post, November 5, 1965, p. D1.

2 Harold L. Wilensky, "Varieties of Work Experience," in Henry Borow (ed.), Man In a World at Work, Boston: Houghton Mifflin, 1964, p. 149.

3 Robert Theobald, Free Men and Free Markets, New York: Clarkson N. Potter, 1963, esp. Part II.

4 Harold L. Wilensky, op. cit., p. 134.

5 From Max Weber: Essays in Sociology, ed. by Hans H. Gerth and C. Wright Mills, New York: Oxford University Press, 1958, p. 232.

6 If one makes certain reasonable assumptions, the data in the table may be brought to include practically the whole of the employed population. The excluded agricultural workers add about 1.5 million to the number of employees in small firms, and about 750,000 to the number of small firms (small being defined as 7 or under employees). The 2.5 million domestic workers may each be considered to be employed by a "small firm" (the household) and thus add 2.5 million to the number of such "firms" and 2.5 million to the number of employees in small firms. The government may be said to add about 2,000 to the number of large firms, and (for March, 1962) about 9.2 million to number of employees in large firms. The number of railroads is very small in number but workers in them add about 880,000 to the employees of large firms. Finally, we may count the 9.6 million self-employed as adding that many more "small firms" (each person a firm) and the same number of employees of such small firms. Through this means, a total of over 16 million "firms" result, employing a total of over 67 million persons.

When the above are totaled and percentages calculated as in the table we find that small "firms" (7 or fewer employees) make up 95.2% of all "firms" and that huge group accounts for 29.8% of all employees. At the other end, large firms (employing 50 or more employees) make up only 0.8% of all firms, but together employ 53.1% of all employees.

7 See, for example, Robert Dubin, "Industrial Workers' Worlds: A Study of the 'Central Life Interests' of Industrial Workers," Social Problems, 3, 1956, pp. 131-142.

8 See, for example, Chris Argyris, Personality and Organization, New York: Harper and Co., 1957.

9 See Edward Gross, Industry and Social Life, Dubuque, Iowa: Wm. C. Brown Co., 1965, pp. 138-146.

10 See Edward Gross, "The Occupational Variable as a Research Category," American Sociological Review, 24, 1959, pp. 640-649.

11 See Fred H. Goldner, "Demotion in Industrial Management," American Sociological Review, 30, 1965, pp. 714-724.

12 William F. Whyte, Human Relations in the Restaurant Industry, New York: McGraw-Hill Book Co., 1948.

13 Robert L. Kahn, Donald M. Wolfe, Robert P. Quin, J. Diedrick Snoek, and Robert A. Rosenthal, Organizational Stress: Studies in Role Conflict and Ambiguity, New York: John Wiley and Sons, 1964.

14 William H. Form and Gregory P. Stone, "Urbanism Anonymity, and Status Symbolism," American Journal of Sociology, 62, 1958, pp. 504-514.

15 Ralph H. Turner, The Social Context of Ambition: A Study of High-School Seniors in Los Angeles, San Francisco: Chandler Publishing Co., 1964, Chap. 4.

Footnotes and References (continued)

[16] More attention should be given to family job counseling. I refer particularly to counseling of married women whose job orientation is very much affected by their husband's jobs as well as by fluctuating family needs. The evidence seems strong that married women, though an increasing proportion of the labor force with every census year, have a quite different orientation to working than do men. The proportion seeking high level professional and semi-professional careers is actually declining, in comparison to the proportions for men. Women tend, then, to be found increasingly as semi-skilled office and industrial workers, where they seek a job requiring relatively little training, which can be fitted into their free hours, and which can be dropped without serious loss of seniority, fringe benefits, etc. Clearly, then, testing for interests, aptitudes, and abilities will have only limited usefulness for such persons. Discussions of these matters may be found in many places. See, for example, Elizabeth Faulkner Baker, *Technology and Woman's Work*, New York: Columbia University Press, 1964; National Manpower Council, *Womanpower*, New York: Columbia University Press, 1957; *1962 Handbook on Women Workers*, United States Department of Labor, Bull. 285; Alva Myrdal and Viola Klein, *Women's Two Roles: Home and Work*, London: Routledge and Kegan Paul, 1956; and the whole of the Spring, *1964* issue of *Daedalus*.

[17] Harold L. Wilensky, "Orderly Careers and Social Participation: The Impact of Work History on Social Integration in the Middle Mass," *American Sociological Review*, 26, 1961, pp. 521-539.

[18] Chris Argyris, *Organization of a Bank*, New Haven, Connecticut: Labor and Management Center, Yale University, 1954.

[19] Arthur Pearl and Frank Riessman, *New Careers For The Poor*, New York: The Free Press, 1965.

[20] William F. Whyte, *Street Corner Society*, Chicago: University of Chicago Press, 1955.

[21] Richard M. Cyert, Herbert A. Simon, and Donald B. Trow, "Observation of a Business Decision," *Journal of Business*, 29, 1956, pp. 237-248.

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[23] David Braybrooke and Charles E. Lindblom, *A Strategy of Decision*, New York: The Free Press of Glencloe, 1963.

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SOME COMMENTS ON GROSS'S PAPER "A SOCIOLOGICAL APPROACH TO THE ANALYSIS OF PREPARATION FOR WORK LIFE"

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My assignment is to consider some of the implications of Professor Gross' paper for people in guidance and vocational education, rather than to critique the paper per se. However, I cannot pass up this opportunity to commend Professor Gross for this admirable job. The theme of the paper should come through clearly: occupations, and the training for them, simply have to be looked at in broader proportions than merely their technical job requirements. The social context of work is too easily ignored by educators for comfort, just as the significance of technical aspects of training is overestimated. But the important contribution of this paper is that it identifies the major dimensions of the social world of work with clarity. Its potential fruitfulness as a source of guidelines for the training of vocational educators should not be overlooked. Each aspect of the discussion suggests courses of study and research questions of relevance to persons in this field.

If I have any reservations about the paper at all, they pertain to the initial assumption about the relative importance of leisure and work. For the purposes of this paper, it was understandably necessary to take a position on this assumption, but I would like to have some of the questions raised early in the paper treated as hypotheses rather than assumptions. Certainly the impact that leisure is having on American society--and its far reaching implications for vocational education--cannot be easily dismissed, as Professor Gross has suggested.

In any event, however, work will remain one of the important elements of our society, and the nature of occupations clearly is of fundamental importance. There is much about the lifeways of some occupations that one could profit from knowing about before his first job (for example, how many of us here knew before our first jobs, that in some organizations secretaries have total knowledge--and janitors, total power?)

It seems imperative to me that we recognize one thing, however. While the paper is about occupations, its fundamental implications are aimed at the roles of vocational educators themselves. For example, if the implications of this paper were followed, it would mean, first, that people in this field would become better acquainted with the problems of bureaucracies, social mobility, alienation from work, etc. There is an irony here however, at least to the extent that people in guidance and vocational education typically have been trained in psychology (or perhaps economics) to cope with what are essentially sociological problems. Does the present training of vocational educators, then, adequately prepare them for the skills actually needed for their job?

But perhaps more important, if the implications of this paper were traced out fully, eventually educators would be required to look at the sociology of their own jobs more carefully. For, there seems to be the implicit assumption in the paper that vocational educators are in a position to do the kind of training and to perform the roles that seem to be necessary, and that they will want to change their roles accordingly.

Yet, change involves status threats, especially when younger, better trained persons from the social sciences begin to challenge the qualifications of persons trained in a former generation. Vocational education might be viewed as a social movement facing the same problems as other social movements have faced. The central problem is how to maintain outside support and secure resources as the society changes without compromising the major objectives. To put the dilemma in its simplest form, as the society changes, vocational education runs the risk of either failing to adapt to new conditions, or in adapting, the original goals of the movement may be transformed. Members of social movements often become so committed to the established organization that they are reluctant to disband it or even to make the necessary adjustments to preserve the original given objectives, and the objectives themselves may be transformed in order to enhance the organization's position and the positions of its members. An organization can increase its bargaining power by taking on additional responsibilities and members and by increasing the scope of control over its present members. They may extract a price in the form of additional commitments binding the organization to a course of action not otherwise specifically required by the goals themselves. The ironic chain of events, then, is that in order to achieve goals, some of the energy that otherwise might have been applied to goal attainment becomes channeled into secondary activities required to strengthen the organization's power, presumably to achieve the goals. The process of bargaining for strength can result in complete displacement of goals in favor of increased power.

In vocational guidance, for example, counselors have increased their bargaining positions by assuming responsibility for college counseling, prestigeful activities supported by influential middle-class suburbs willing to pay for their services, while the city schools, pressed by problems of drop-outs, discrimination, etc., are far less adequately staffed. The persons in positions of status and power in vocational education, who are the ones in a position to lead the way to innovation, are the ones most threatened by the prospect. In vocational education, urbanization threatens the traditional prominence of persons in vocational agriculture, the role of the Federal government is threatening regional organizations, the prospect of giving poverty groups more control over the programs designed for them threatens the politicians and academicians, and the suggestions that persons trained in the liberal arts and social sciences take more leadership in vocational education threatens the older generation whose training is thereby out-moded. Persons in the field, consequently, are becoming concerned about preserving their public image, with publicizing their present achievements. These public relations efforts sometimes perform "boundary maintenance" functions: they are sometimes used as a defense against outside pressures to change.

But even if vocational educators wanted to modify their approach and perspective, to what extent can they do so within the present context? While perhaps vocational educators seldom have to contend with biting dogs, there are employers to be contended with and parents and their own administrative superiors and the Federal government which influences the kind of job that they can do. I think, for example, that the suggestion in this paper, that one ought not be too loyal to his line of work or his employer is provocative. But employers expect loyalty, schools evaluate students on this basis, and recommendations are supposed to reflect upon a worker's dedication, conscientiousness, etc. How free are educators to advocate to students a kind of calculated alienation from their work, and still remain in business?

Vocational educators are also employees of large organizations. Several characteristics of their positions, I believe, are responsible for certain types of constraints on what roles they can, and do, play in society.

First, as members of organizations, vocational educators are expected to be loyal to their own administrators. What kinds of constraints are placed on them by their employers?

Also, they make implicit bargains with outside employers to hire their products in exchange for local support; they may be pressured to train people for the local market. In exchange for cooperation and support from influential employers, certain employers may get "first crack" at the better graduates. Moreover, placing a person in a certain type of job, or refusing to place him, may be more relevant to the educator's reputation than to the best interests of the person involved, e. g., an educator who tries hard to place a poor risk worker gambles with his relationship with the employer involved, while placing people in a certain job may be a feather in the vocational educator's cap.

Second, vocational educators are middle-class citizens. As middle-class persons, whose problems are vocational educators trying to solve: those of the lower class students usually channelled into vocational education, their own, or perhaps those of others? Which organizational principles mentioned by Professor Gross (such as the emphasis on impersonality) conflict with the personal values of counselors, and with what consequence? Do vocational educators typically make additional efforts to place people who might be frowned upon by middle-class employers because they swear or drink excessively, or wear duck-tail haircuts? Do they feel responsible for assisting their students with their housing and other problems not directly connected with their work?

This field might have assumed even more responsibilities than it has if it were not for the social and organizational constraints on vocational educators. For example, in addition to simply trying to supply people for jobs, vocational educators might have taken more active leadership in modifying certain elements of the job structure--such as racial discrimination, or discrimination against women.

His middle class and psychological perspectives, in combination, have encouraged the educator to focus on helping the individual in his office rather than on the social conditions responsible for the student's problem. By contrast, some groups seem to have more grasp of the sociological dimension. The work of civil rights and fair housing groups, VISTA, the Job Corps, and minimum wage legislation and right to work laws are not entirely irrelevant to the problems of vocational education. How much leadership have vocational educators assumed for these developments?

As a means of gaining recognition and support, vocational educators have adopted the perspective of the Federal government, devoting many of their efforts to the defense of the national interests rather than to those of their individual clients. The national search for talent does not always reflect the original vision behind the movement as a means of helping individuals to solve _their_ problems. The conception of individuals viewed as national resources, whose lives are "wasted" unless devoted to national needs is reflected in Berdie's comments:

> "Thus manpower is the country's most valuable natural resource. Classifying men as a resource to be used has unpleasant connotations for some people, but such a concept is not necessarily degrading since manpower, along with timber or metallic ores or animal products is used for man's own betterment.
>
> Just as other natural resources have to be processed and subjected to various degrees of refinement, so does manpower...The degree of refinement of petroleum depends upon the purpose for which the final product is to be used. Manpower also must be refined progressively as more exacting demands are placed upon the final product." (Berdie, 1954).

What kinds of pressure on counselors determine how they will reconcile the interests of the nation and of the economy with those of the individual clients?

But all of this is by way of illustration. To return to the major point, if the implications or Professor Gross' paper were traced out fully, vocational educators eventually would have to come to grips with the sociological dimensions of not only _other_ occupations, but of their own as well. It seems as important to understand the characteristics of their own jobs as the jobs in which students are placed.

PSYCHOLOGICAL JOB ADJUSTMENT: IMPLICATIONS FOR GUIDANCE IN VOCATIONAL-TECHNICAL EDUCATION

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The best possible way to understand a thing is to develop and test a theory about it. A theory defines the important variables needed to account for the thing we wish to understand, and it specifies the nature of the relationships between the variables.

I do not propose to develop a theory of job adjustment, but I should like to do a bit of speculating about what such a theory might look like in its beginning stages. I can do little more than identify what I believe to be the important variables that should be included in such a theory, and mention what I know from observation and research findings to be the relationships between certain of the variables. A theory specifies in a systematic manner the relationships between the variables. There will be nothing systematic about my comments. I am not certain that research evidence is available concerning the relationships between some pairs and combinations of variables.

In order to understand job adjustment, we need to study both the individual and his job situation. Davis, England, and Lofquist (1964) distinguish work satisfactoriness from worker satisfaction. Work satisfactoriness is explained in terms of the correspondence between worker abilities and ability requirements. Worker satisfaction is a function of worker need set and the reinforcer system.

Some Thoughts Toward a Theory of Job Adjustment

We know that both the individual and the job environment are quite complex in structure. That is, each must be described in terms of several sets of variables each of which is complex in structure. For example, personality is one of the sets of variables needed to describe the individual. But personality itself must be described in terms of several variables.

Let us start by postulating that job adjustment (A) is a function of the individual (I) in interaction with the job environment (E). We can say then:

$$A = f\ (I \times E)$$

This is not a very profound statement, but it provides us with two very practical advantages. First, it sets limits to the dimensions of the problem to be studied. Second, it identifies three sets of variables that need to be considered. That is, we need to study not only the individual (I) and his job environment (E), but also job adjustment (A) itself.

While realizing that theorists do not all agree about the names for certain variables, or about the importance of certain variables, let us nevertheless venture to suggest the sets of variables that are needed to develop a theory of work adjustment. They are listed in Table I.

Table I: Sets of Variables Required to Explain Work Adjustments

I. Individual Variables

A:	Age, sex, race
I_2	Physique, health
I_3	Ability, skills, knowledge
I_4	Personality, values
I_5	Expectations, aspirations, reinforcement
I_6	Group and class identifications

E. Environmental Variables (The Job)

E_1	Community Structure and norms
E_2	Occupation and technology
E_3	The workplace (structure and operations)
E_4	Task demands and opportunities
E_5	Rewards and penalties
E_6	Co-workers and supervisors

A. Measures of Work Adjustment

A_1	Job performance
A_2	Relation with supervisors and peers
A_3	Reactions to rules and norms
A_4	Reactions to rewards and penalties
A_5	Illness and accidents
A_6	Absenteeism and job turnover

Each of the 18 sets listed above represents a broad, inclusive class of variables. For example, intelligence, as a characteristic of the individual, is included in variable I_3 (ability, skills, knowledge). Characteristics of the job itself are included in E_4 (task demands and opportunities). Rate of advancement, as a measure of job adjustment, is included in A_4 (reactions to rewards and penalties.)

There is reason to believe that the sets of variables required to describe the individual are interrelated rather than additive, although the correlations between some of them may not be high. If the variables interact, we can write the following equation to account for the individual.

$$I = f \ (I_1 \times I_2 \times I_3 \times I_4 \times I_5 \times I_6)$$

There is also reason to believe that sets of variables describing the job environment interact. The following equation accounts for the job and its environment.

$$E = f \ (E_1 \times E_2 \times E_3 \times E_4 \times E_5 \times E_6)$$

If elements of job adjustment are interrelated, as we believe them to be, we can write the following equation for job adjustment.

$$A = f \ (A_1 \times A_2 \times A_3 \times A_4 \times A_5 \times A_6)$$

In the equation $A = X \ (I \times E)$ we imply that the six sets of variables describe the individual interact with the six sets of variables describing the job environments to account for the sets of variables describing work adjustment. The multiplication sign (x) used in these equations implies that the sets of variables are intercorrelated. Results of available research suggest that the average correlations between I and E, I and A, and E and A variables are likely to range between zero and .39. The signs for some of the correlations will be negative. Higher correlations will be found now and then by various investigators. Certain individual variables, such as personality and values, may be more highly correlated than individual and environmental variables.

If we need 12 sets, with each set containing several variables to explain work adjustment, it is apparent that we are confronted with a very complicated task. The task is made still more difficult by the likelihood that the variables interact in some degree that is at present unknown. With these considerations in mind, we shall review some of the literature bearing on the problem.

A Brief Review of the Literature

The time available to me does not permit a systematic review of the literature on job assignment. The best I can do is to point out the relationships between different variables, using source materials I have readily at hand.

Individual Variables

Age, sex, race. The very young and the very old are most susceptible to illness (Turnbull, Willians, and Cheit, 1957). Job satisfaction in industry tends to be lowest in the group between 20 and 35 years of age. Thereafter it tends to rise with increasing age (Herzberg, et. al., 1957). Poor mental health is extremely high among young workers in repetitive jobs (Kornhauser, 1965).

Illness is more frequent among female than male employees, but men tend to be ill for longer periods of time (Turnbull, Williams and Cheit, 1957). Men and women do not differ markedly in job satisfaction on the average, but significant differences are found in specific locations (Herzberg, et. al., 1957). Job turnover rates are higher among women than among men, except in the professions.

Race is an important variable, particularly in that it operates as a barrier to obtaining jobs that are suited to the individual's interest and abilities. Little competent research exists on factors related to negro job success (Chalmers and Dorsey, 1962).

Physique and Health. With the increased use of machines physique and physical strength are becoming less important in industrialized societies. Health, however is an important personal, social, and economic factor. Illness is more frequent among the very young and the aged than among intermediate age groups, among female than males, among low income groups than high-income groups; among the unemployed than the employed, and among the unmarried than the married. (Turnbull, Williams and Cheit, 1957). Thus, illness is highly related to the individual's social and economic status. Accident rates are higher among those who are frequently ill (Vernon, 1936). Accident rates tend to decrease with increases in amount of prior training, length of time on the job, and age. (Harrell, 1958). Handicapped workers have been found to score as high as their control counterparts in quality of work performed (Carlson, et. al., 1963).

Ability, skills, knowledge. Ability is an important determiner of performance at all occupational levels - semi-skilled, skilled, and professional (Harrell, 1958; Ryan and Smith, 1954). Suitable matching of job and skill, and skill adequate for successful performance are related to job satisfaction (Herzberg, et. al., 1957). Intelligence differs among the different occupational strata (Tyler, 1964). Knowledge, skill, and especially opportunity to obtain suitable training, vary among the different socio-economic strata (Nosow and Form, 1962). Skilled workers rate higher than unskilled workers in job suitability, but lower in absenteeism and tardiness (Carlson, et. al., 1963).

Personality, values, interactance. Personality is an important determiner of job adjustment. Personality factors are far more frequent than unsatisfactory performance as causes of discharge (Harrell, 1958). The individual tends to join, and to be accepted by, groups and social strata with values similar to his own. The person whose values deviate from those of the group tends to be rejected. (Stogdill, 1959). Individuals differ in their ability to interact comfortably with others. (Moreno, 1953). City workers are less satisfied than small town workers with jobs requiring high degrees of personal interaction (Turner and Lawrence, 1965). Personality patterns that are typical of an occupation do not characterize all members of the occupation (Roe, 1964).

Severe personality maladjustments do not necessarily prevent successful job adjustment. A study of a 1 per cent random sample of all World War II and Korean veterans diagnosed as pychotic and neurotic revealed that 90% was making a satisfactory work adjustment (Cooperman and Sonne, 1963). Good mental health is more prevelant among skilled than among unskilled workers (Kornhauser, 1965).

Expectations, aspirations, reinforcements. Research on learning indicates that it is not the value of a reward, but the individual's reaction to the reward, that reinforces performance. Pay either lower or higher than expected is related to job turnover (Knowles, 1964) and dissatisfaction (Stockford and Kunze, 1950). Failure to satisfy expectations relative to job assignment, nature of tasks, work conditions, pay, advancement, and the like, are associated with employee dissatisfaction with the job. Job satisfaction, in turn, is more highly related to absenteeism and turnover than to productivity (Stogdill, 1959; Herzberg, et. al., 1957). Factors that contribute to the individual's self esteem, worth, and feeling of success are most highly related to job satisfaction and good mental health (Kornhauser, 1965; Herzberg, Mausner, and Snyderman, 1959).

Young people often aspire to positions that they cannot easily obtain, either because of inappropriate abilities or inability to obtain appropriate training. Whereas professional, technical, office, and skilled jobs are more often desired, high school graduates are more likely to obtain semi-skilled, office, or unskilled jobs than the ones to which they aspire (Bell, 1938).

Group and class identifications. An individual's membership in various social, occupational, and ethnic groups tends to determine his values and his acceptability by other groups. However, the groups with which he compares and identifies himself tend to determine his aspirations and satisfactions. The worker tends to be better satisfied with his job when it is held in high regard by family and friends (Bullock, 1952). Blue collar workers are more strongly identified with their primary reference groups than are white collar workers (Shostak and Gomberg, 1964).

Occupying a position with a higher status level than that of one's father or brother tends to be associated with positive job satisfaction (Form, 1962). The higher the level of one's position on the occupational scale the more likely he is to be business oriented. The lower one's position the greater the likelihood that he will be labor oriented (Glantz, 1962). Professional and white collar workers tend to value self expression as a job characteristic, while manual workers, value independence and job security (Centers, 1948; Morse, 1962).

Environmental (Job) Variables

The job is embedded in a larger environment - cultural, national, community, organizational, and the like. Such environmental factors determine to a high degree the nature of a job and the reactions of the individual to the job.

Community structure and norms. Societies with centralized governments tend to establish permanent committees that are supported by agriculture. Their production organizations are characterized by managerial or separated, rather than collective, ownership (Udy, 1959). The rise of the factory is associated with the movement of people from small communities to large cities. The size and structure of the community determine how the individual will utilize his time with respect to work, travel, and leisure (Miller and Form, 1964).

The rise of the city is associated with the proliferation of differentated trades and professions, each with its own standards and norms. Societal, class, and occupational norms determine the kinds of jobs that the individual will be willing to accept (Douglas, Hitchcock, and Atkins, 1923). Community norms determine the nature of the jobs that are available to individuals from different classes and ethnic groups (Nosow and Form, 1962; Roe, 1956).

Occupation and technology. The occupational structure of a society can be described on terms of the worker task requirements of different jobs (Shartle, 1952, 1964). As technology becomes more complex, the human organization required to carry on the technology becomes more complex (Walker, 1962). When the individual moves from the small craft shop to the factory he is required to surrender a high degree of freedom and individual creativity (Douglas, Hitchcock, and Adkins, 1923).

The work place. As the technology of work becomes more complex, more levels of authority are required to carry on the technology (Udy, 1959). With the increased use of machines, the worker tends to lose control over the job and becomes increasingly alienated from his work (Blauner, 1964). With the increased use of automation, the control of both operational and maintenance functions become more highly centralized, but the human relations competence of the supervisor is not reduced under automation (Mann and Hottman, 1960). Work groups tend to develop norms that regulate output and establish tolerable levels of performance (Roethlisberger and Dickson, 1939; Whyte, 1955). Workers who deviate from the norms tend to be isolated or rejected (Thibaut, 1950).

Task demands and opportunities. Rapid changes in technology and the increased use of automation is changing the nature of task performance, as well as the demands for education and training (Walker, 1962). New jobs in the future will require less in the way of physical skills and more in the way of judgment and decision (Diebold, 1959). Tasks characterized by high degrees of variety, interaction, knowledge, skill, and responsibility are associated with high job satisfaction among small town workers, but low satisfaction among city workers (Turner and Lawrence, 1965). Poor mental health among factory workers, and its difference between different levels of skill, is not related to repetitiveness, speed of work, or machine pacing; but appears to be related to low self esteem, discouragement, and feelings of failure (Kornhauser, 1965). Among professional and white collar workers, job satisfaction is associated with opportunity for initiative, innovation, and decision (Herzberg, Mausner, Peterson and Capwell, 1957).

Rewards and penalties. Although workers value pay that is perceived to be commensurate with their contributions, they value more highly work experiences that yields a sense of self esteem and success (Kornhauser, 1965; Herzberg, Mausner, and Snyderman, 1959). The satisfaction (reinforcing) value of a monetary reward is determined, not by its absolute value, but by its magnitude in relation to the pay received by other persons and groups with which the worker compares himself (Whyte, 1955; Stogdill, 1959; Stockford and Kunze, 1950). Incentive wage systems increase productivity only over the short run (Barker, 1951).

Supervisors and co-workers. Relations with supervisors and peers are important determiners of job satisfaction (Herzberg, Mausner, Peterson, and Capwell, 1957). Employee satisfaction is more highly related to supervisory behavior than is group productivity (Parker, 1963; Stogdill, 1965). A considerate, employee-centered style of supervision is related to the worker's satisfaction with his freedom on the job. A structuring style of supervision that lets the worker know what to expect is related to satisfaction with the company and its management (Stogdill, 1965).

Job Adjustment Variables

We seek to explain job adjustment in terms of individual and job environment variables. Job adjustment is itself a multi-variate concept. The employer tends to regard job performance as the most important measure of worker adjustment. But there are other measures of job adjustment, the importance of which become apparent when the worker presents a problem to his employer.

Job performance. Job performance has been found to be highly related to workers' ability, knowledge, training, and skill, and to the matching of job requirements with worker qualifications. Performance tends to be regulated in some degree by work group norms. Health, physique, and personality disturbances are not highly related to performance on the job, but do affect attendance at the job, accident rates, and the like.

Relations with supervisors and peers. Relations with supervisors and peers are important not so much because they affect job performance, but because they affect job satisfaction, motivation, mental health, and regularity of attendance at work. Poor relations with supervisors and peers tend also to create problems of discipline, cooperation, coordination, and lowered job satisfaction among work associates.

Reactions to rules and norms. Inability to accept and abide by work rules is a frequent cause of dismissal. The worker who fails to conform to the norms of his work group tends to be isolated or rejected. Isolation and rejection are, in turn, associated with low job satisfaction.

Reactions to rewards and penalties. Pay is not the only reward for work. Satisfaction of expectations relative to pay, work assignment, working conditions, advancement, job tenure, and recognition of contributions, tends to reinforce the expectation of further satisfaction in the work situation. Rewards are more effective than penalties as reinforcers. Incentive wage systems generally increase work output only for short periods of time.

Illness and accidents. Physical condition, muscular coordination, emotional tension, and fatigue are associated with individual accident rates. Proper job assignment would then appear to be a possible factor in controlling accidents and injuries.

Absenteeism and job turnover. Absenteeism and job turnover are symptomatic of discouragement, low job satisfaction, poor mental health, illness, inadequate training, and newness on the job.

Discussion

A sketchy review of the literature is sufficient to reveal the fact that a wealth of data is available on the subject of job adjustment. It supports our initial supposition that numerous variables are related to one or another aspect of job adjustment. The available data do not provide a clear indication of the ultimate structure of a theory of job adjustment. Our initial assumption that all of the 18 sets of variables interact is probably untenable. If some variables do not interact, the problem of predicting job adjustment would be considerably simplified. In reviewing the literature, it was apparent that certain variables, not themselves related to job adjustment, affect and condition other variables that are directly related to job adjustment. Better information than that now available is needed to develop an adequate theory of job adjustment. Systematic, multivariate research is needed. The needed information cannot be produced by sporadic research on small subsets of variables. That is to say that it would be difficult to test a theory of job adjustment using the numerous, but fragmented, scraps of data now available.

The speculations herein presented may have served a useful purpose in that they indicate something of the scope of the problem of job adjustment, and suggest that a considerable body of competent research methodology exists for further systematic investigation of the problem. There is a particular need for research on the factors related to job adjustment of Negroes and other ethnic groups.

Concerning guidance practice, guidance practitioners should consider offering more program services directed toward helping their students cope with anticipated problems of job adjustment, e.g., (role conflict, supervisory relationships, automation, and productivity standards) since most graduates of vocational programs will be directly entering jobs immediately after graduation.

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EXPLORATIONS IN COMPUTER-ASSISTED COUNSELING*

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Introduction

For some time now, the idea that electronic data-processing techniques could be applied to the routine clerical tasks in education has been accepted. We have witnessed a widespread application of these techniques to attendance accounting, grade reporting, and making master schedules.

These foregoing applications pertain to tasks that lie on the periphery of instruction and counseling. Their main effect is to save human time, which can then be spent on tasks requiring judgment and sensitivity. While it seems fairly certain that the automation of scheduling will eventually lead to more flexible instructional programs, the current efforts are aimed primarily at constructing the rigid master schedule associated with the lockstep system.

A different and more challenging hypothesis is that the value of electronic information-processing techniques will increase as they are more directly applied to the central functions of instruction and counseling. The purpose of this document is to examine some of the paths our research has begun to explore in this direction.

SDC Study

We will begin by describing a study that was conducted on the application of automated techniques to tasks of central importance in counseling. The area selected for study was the educational planning function; the procedure employed was to simulate by computer as much as possible of a counselor's behavior in two phases of educational planning: the appraisal of the cumulative folder and the planning interview with the student.

The study was patterned in some respects after the procedures employed by Kleinmuntz (1962).** In his study, he simulated the profile analysis behavior of an interpreter of the Minnesota Multiphasic Personality Inventory Test (MMPI).

The profiles of 126 students from Carnegie Institute of Technology were used for the input sample. Forty-five of the students were called the "maladjusted group," either because they came into the counseling center and talked about emotional problems or because they were identified by a majority of their sorority/fraternity peers as one of the two "most maladjusted" members of the chapter.

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**B. Kleinmuntz. Personality test interpretation by digital computers. Science, 139 (3553), 1963. 416-418.

The profiles of the 126 students were given to ten MMPI interpreters, who were asked to sort for the adjusted and the maladjusted students. The clinician who had the highest number of hits with the lowest error rate was picked for further study. Kleinmuntz spent approximately 30 hours with the expert, or "winner," listening and recording while the interpreter verbalized his thinking as he repeated the sorting task many times. On the basis of this sample of the interpreter's behavior, a 16-rule program was developed at Carnegie Tech to simulate the sorting task on a computer. The first version of the program did not perform quite as well as the clinician. Kleinmuntz used the explicit model as a basis for building a more elaborate model through trial and error. He eventually developed a refined computer program, with 35 rules, which performed better than the expert MMPI interpreter. On cross-validation studies at five other colleges, the "hit rates" of the revised model were about as high as those of the human expert on the original sample.

Kleinmuntz's study demonstrated several interesting points: it showed that clinical behavior could be simulated on computer; it provided support for the idea that the procedures of building a model by computer simulation yields a more explicit statement of diagnostic behavior than can be provided by a verbal description, and it suggests a way of systematically making use of clinical interpretation for prediction purposes.

Although we have patterned our procedure for obtaining the sample of the counselor's behavior after Kleinmuntz, our study differs in a number of ways. We were not interested in demonstrating that we could build a model that would be better than a counselor. No external criteria by which we could compare the machine against the human were defined. By the same token we did not select a counselor for study on the basis of his performance in a criterion situation. Our intention in this first study was to explore the terrain--to identify some of the major problems, both in regard to defining areas for further research and in methodology. Our study, because of its exploratory nature, was also aimed at a much broader spectrum of counselor behavior. We were trying to simulate both a counselor's behavior in the appraisal of the total cumulative record, and his behavior in the educational planning interview. We hoped that the study, in addition to suggesting further areas for research, would provide some concrete information about the kinds of man-machine systems that can be designed for counseling services.

Before selecting a counselor, we were concerned with several problems. Could a counselor be selected in terms of some external criterion? We decided that, since we wanted to study such a broad spectrum of the counselor's behavior, there were no existing criteria for operationally defining the "best" counselor. We decided instead to study counselors who were considered "good" by their supervisors.

A second question concerned the generalizability of our study. We had made recordings of the verbalized "thoughts" of counselors from different parts of the country as they engaged in the cumulative folder appraisal task. These pilot studies made it apparent that there are fairly wide differences among counselors. Some counselors concern themselves almost entirely with the data in the cumulative folders; others talk about the phenomenal experiences of the student as expressed in previous counseling interviews. We considered the idea of studying several counselors at the same time, with the notion that we might build something more general from these procedures, but finally concluded that for this first exploratory study we should examine one counselor intensively. We decided to select an experienced counselor who habitually used the data in the cumulative folder in his appraisal; the data in unexamined cumulative folders would then provide a concrete and fairly standardized data base with which to evaluate the behavior of our simulated model.

Since the task was to help ninth-grade students in their planning for high school, we picked a counselor who had experience in this task and who also worked at the high school level. Our rationale for the latter decision was the assumption that a counselor who had worked with high school students might, consciously or unconsciously, have developed better predictive rules from exposure to the students in the criterion situation.

The counselor selected for the study had long experience as a counselor in the Palo Alto School District, was identified by the Director of Guidance and the Director of Research of the school district as one of their best counselors, and was also working as a vice-principal in one of the high schools.

The following procedures were employed in the data collection. The cumulative folders of 20 ninth-grade students were randomly selected for the study. The counselor was instructed to think aloud as he read through the data in each folder. He was asked to select the data he felt were important and to address himself to the following problems:

1. What broad goals should the student consider?

2. What problems, if any, does the student have?

3. What additional information would be desirable?

4. If problems are apparent, what causes might be hypothesized?

5. What things might the school do to help the student?

The only other instructions given to the counselor were that he should notify us when he was about to express his conclusions and that he should label these as his "output" statements since we wanted to use these statements, word for word if possible, as the output statements of the computer program.

Following the appraisal of the cumulative folders, the counselor called the students in for a regular educational planning interview, during which the students made out a program of courses for high school.

The separation of the appraisal from the interview was somewhat artificial. Most counselors, including the subject of this study, make their detailed appraisal during the interview and not prior to it. However, the artificial distinction was necessary for the study.

The recordings were transcribed and analyzed. A model of the counselor's decision rules in the appraisal task and another model of his behavior in the interview were defined for computer simulation. The cumulative folder appraisal program was written for the Philco 2000 computer.

The automated cumulative folder appraisal system accepts as inputs the data in the cumulative folder--grades, aptitude test scores, parents' occupation, etc. The program analyzes these data, applying the programmed "rules" abstracted from the counselor's verbal behavior, and selects output statements such as the following:

> "Student's grades have gone down quite a bit. Ask about this in interview. Possibly there are personal problems."
>
> "Student should be watched closely. He will probably need remedial courses."
>
> "Student is a potential dropout."
>
> "Low counseling priority. No problems apparent."

In the automated interview, the student-program interaction takes place through the medium of a teletypewriter connected to a Q-32 computer.

The interview goes through the following procedures. (Appendix A provides the actual printout of an interview that was conducted during the evaluation study described below.) First, using conventional computer-based programmed instruction techniques, the student is given a 5-minute lesson on use of the teletype. Next, the student's cumulative folder record is inspected and the machine types out the student's courses and grades for the last semester and asks the student to indicate courses in which he is having problems. If the student specifies problem courses, the machine asks him to type, in his own words, a description of the problem for each course. These descriptions are stored on magnetic tape and later are printed out on an off-line printer. The printouts are sent to the counselor.

Following the description of problems, the machine asks the student if he would like to stop the interview to go see his counselor or if he would like to continue. If the student continues, his goals are explored next. The machine asks if the student plans to go to college. If he does, the program assists him in selecting the type of college he hopes to attend. If he does not, the student and the computer explore vocational alternatives in order to establish the student's vocational interests.

Following the selection of college or vocation, the machine assists the student in determining his major field of interest. The student is then given a statement regarding the probable grades that he will make in high school and a statement about his chance of success in his chosen post-high-school activity. These predictions are based on statistics accumulated by the Palo Alto School System.

Then the machine requests that the student select courses for 10th, 11th and 12th grades. The machine evaluates the student's choices and advises him regarding required courses, appropriate course loads, and the relevance of his electives to his chosen major.

Throughout the interview, records are kept by the program and, when certain critical events occur, messages are composed. At the conclusion of the interview, all such messages are printed out for transmittal to a counselor.

EVALUATION OF THE AUTOMATED PROCEDURES

An investigation was conducted between March 22 and March 26, 1965, to assess the simulation and to appraise student acceptance of the automated interview. Forty 9th-grade students were randomly selected from the population of 9th-grade students at the Wilbur Junior High School in Palo Alto, California. The students' total Scholastic and College Aptitude Test scores ranged from the third percentile to the ninety-sixth percentile. The group is somewhat above the national average in aptitude.

A teletype was installed at the school and was connected by telephone line to the Q-32 computer at SDC in Santa Monica. All 40 students took the automated interview. In addition, all of the data in the cumulative folders of the 40 students were analyzed by the appraisal program. Twenty of the 40 students were also interviewed by the original counselor, and the other 20 were interviewed by a second counselor. The second counselor was included in the study to provide some estimate of the generality of the model.

To control the effects of sequence and order, each group of 20 was further divided into two subgroups of ten. One group of ten students went to the computer first for the interview and then went to the counselor. The other group of ten saw the counselor first and then was interviewed by the computer.

Following each interview, either by human or machine, the students were given an opinion questionnaire designed to measure their attitudes toward the interview. When each student had completed both the human and the machine interviews, he was given a standardized interview to obtain more detailed information on his attitudes toward the machine and human interviews.

The results of the study are summarized in four broad categories: (1) those areas in which there appeared to be no marked difference between the counselor and the automated systems; (2) those areas where differences were observed between the automated systems and the counselor; (3) findings on the reaction of students to the automated procedure; and (4) areas that require further study.

1. Areas of no difference between automated systems and counselor. No significant differences were found between the appraisal behavior of the two counselors and the computer appraisal programs on three-fourths of the appraisal statements. Both human and computer performed similarly in terms of identifying the following: changes in the pattern of student's grades; underachievement; overambitious plans; need for remedial work; appropriate and inappropriate post-high-school plans.

2. Areas of difference between automated systems and the counselor. The automated appraisal programs identified significantly more students as overachievers and as potential dropouts than did either of the two counselors. Both of these differences were clearly attributable to the fact that the computer program was generally more pessimistic in predicting the future achievement of students in the lower aptitude levels. A modification of the computer program to change this one function would produce a much greater similarity between the counselors and the automated procedures.

(It was the feeling of the researchers that the computer program provided an excellent model for studying some of the counselor's decision rules. Following the study there was a strong subjective feeling of confidence that the procedure also provided a good way of understanding the counselor's appraisal behavior.)

The schedules made by the students under the automated conditions tended to differ from the schedules made with the counselor present. This was true not only for the specific courses which were selected but also in the number of course schedules that were completed. In this latter sense, the computer was more permissive than the counselors. It did not compel the student to make a complete program of courses nor did it compel him to make any attempt at preparation of a program.

Two interesting differences showed order effects. When the machine interview was administered first, there were greater differences between the schedule produced with machine and the schedule produced with the counselor than occurred when the counselor interview was first. A number of observations led to the conclusion that the counselor exerted more influence on the students than did the interview program.

Also, a significantly larger number of students expressed concern over problems to both counselor and machine when the machine interview occurred first in the sequence. This difference may be attributable to the fact that the computer interview always asked students if they had problems, while the counselors may not have asked. In addition, some students stated emphatically that they felt that the confidentiality of the machine interview was a strong point in its favor.

3. Reaction of students to the automated procedure. Different sets of attitude questions were presented following the automated interview and the human counseling interview. The questionnaire items were tailored to the two different situations. Although no direct comparison can be made at this time, the mean scores on both the post-machine scale and the post-human counseling scale tended to be in the positive direction. The scoring was such that if one-half the items were answered negatively and one-half positively, the total score would be 90 on either of the two scales. The actual mean score for the students on the post-machine interview scale was 105, and the actual mean score for the students on the post-human counselor scale was 119. There were wide individual differences among students in each group. A few students seemed to react very positively to the machine and a few expressed a strong preference for the counselor.

In the standardized post-interview, 53 percent of the students indicated that the machine was not able to take into consideration all of the data necessary to make adequate plans for high school. Most of these students felt the machine did not give enough consideration to personal interests and personality variables.

Fifty-six percent of the students expressed some reservation about course plans made with computer assistance, whereas only 20 percent had reservations about course plans made with the counselor.

Six percent of the students reported that the computer interview bored them and made them restless; 26 percent of the students felt bothered by the fact that the computer did not give them any reassurance as to whether their choices were appropriate.

Only one of the 40 students in the study chose to terminate the machine interview before making 10th-year course plans.

4. Problems for future study. The results of the pilot study indicate that simulation of logical appraisal procedures is more easily achieved than automation of complex interviewing procedures. It would seem from analysis of the data that further study of the appraisal process should consider how the counselor's appraisal decisions based on the quantitative data are modified by the interview.

One of the counselors in the pilot study was from the Wilbur Junior High School in which the study was conducted. The other counselor (the original counselor) was from another school. Of the total number of appraisal statements made by the counselor who knew the students (97 statements), 42 percent (41 statements) were also made by the computer model. Of the total number of appraisal statements made by the original counselor (53), 77 percent (41 statements) were also made by the computer model. This result suggests that the computer model better represents the original counselor. However, the difference may also be attributed to the fact that the counselor from Wilbur Junior High School had more data. Examination of her responses indicated that she was using additional data obtained from first-hand knowledge of the students.

The automation of interview functions needs further study. The study indicated that more than one iteration is required in the analysis and design process to achieve accurate simulation. Most of the differences in the output of the human and the machine interviews could be resolved by a small number of cycles of program modification and system test with another sample of students. However, the problem involves more than accurate simulation or reduction in differences. The data on student reaction suggest that there are individual differences among students in their response to the automated system. The data also suggest that there are sequence effects that should be considered. In some cases, a period of time spent on the machine may make the student more productive in the interview with the counselor. In other cases, the contrast between machine and human could make the student more dependent upon the human. Further study of the machine interview versus the human counselor does not seem advisable. The question should not be that of which is better, but how and to what extent can automated interviewing be successfully integrated into the counseling process. The pilot studies indicate that automated interviewing procedures can be developed. Adequate field study is required to acquire some basis for recommending how such procedures as automated appraisal, and automated interviewing, can be used in actual counseling practice.

An unanticipated result of the work done so far on the automated interview has been the initial design of an advanced integrated student-information system. The student-information system currently has the following features: a student-information data base; an information input system for updating the student-information base through teletype stations; an information retrieval system for printing out student data on the teletype; and the associated programs for appraising the data and conducting the automated educational planning interview.

The student-information data base contains all of the relevant information on the student. At the present time, the stored data are those usually contained in the cumulative folder. However, the information input procedure would permit a teacher, counselor, or other appropriate personnel to modify the data base for any student by adding, changing, or deleting information. This system, in a real school environment, would possibly consist of input-output teletypes placed at appropriate spots in the building. An up-to-date student data base could be maintained simply by typing in relevant new information as it became available. The system is currently programmed so that personnel must know a set of code symbols to retrieve information from the student-information base. Anyone knowing the code can get an immediate listing of information available about any student.

FUTURE PLANS

Future development of the retrieval system will allow the person requesting information to select it by category. Different codes and displays will also be developed for students, teachers, and counselors, so that the student will be able to obtain appropriate screened information of value to himself when he needs it. The data currently stored in the student-information data base can be thought of as "primary data," i.e., data that are essentially unprocessed and unanalyzed. The student-information data base will be expanded to include information resulting from further processing of the primary data, which can be thought of as "secondary data," for example, the output statements similar to those produced by the counseling appraisal program.

At the present time both the counseling appraisal program and the automated educational planning interview use the student-information data base. Other programs will be added to the system. A student tracking system that follows student progress and provides displays to students, teachers, and counselors when the student's performance falls below "expected" levels, will be integrated into the total system. The system will be further enlarged to include numerous other functions, such as diagnostic interviewing and testing; computer-assisted instruction, real-time, flexible, scheduling and control programs that solve scheduling problems on a continuous basis, etc.

We are planning as our next experimantal step the development of a man-machine counseling system in a real educational setting. (Appendix B described a hypothetical man-machine counseling system for illustrative purposes.) We hope to study counselors at a selected field site and to build computer programs for automating some of their functions, such as appraisal. The programs will be adapted to the particular styles of the various counselors at the field site. We view this effort as a three-year study. The first year of work will produce an initial system design in the laboratory. During the second year we will test the first version and revise it until it meets prestated objectives. The third year will involve training the personnel to use the system; testing the procedures, especially those relating to the interface between the man and the machine; and implementing the system in the field. Following implementation, an evaluation of the installed system will be made.

Once the system has been developed and installed, it will provide an excellent vehicle for research studies aimed at improving these systems in general. In addition, the problem of implementing the system in other field settings--i.e., the problem of generalizability--can be further explored.

APPENDIX A

COPY OF SAMPLE INTERVIEW

```
YOU ARE ABOUT TO PARTICIPATE IN AN INTERVIEW WITH AN AUTOMATED COUNSELOR.
THE COMPUTER WILL HELP YOU PLAN WHAT YOU WANT TO DO IN HIGH SCHOOL AND
IN LATER LIFE.
BUT FIRST, JUST TO LET THE COMPUTER KNOW YOU ARE THERE PLEASE TYPE THE
LETTER  A  AND A CARRIAGE RETURN  (RED KEY ON THE RIGHT-HAND SIDE OF
THE KEYBOARD).

**** A

GOOD...
THE MOST IMPORTANT KEY IS THE  CR  KEY (RED KEY ON THE RIGHT).
YOU WILL USE IT TO LET THE COMPUTER KNOW THAT YOU HAVE MADE AN ANSWER.
JUST FOR PRACTICE, TYPE THE LETTER  B  AND  CR (RED KEY).

**** B

OK....
SOMETIMES YOU WILL BE ASKED TO ANSWER A YES OR NO QUESTION.
WHEN YOU ARE, JUST TYPE  YES  OR  NO  AND A  CR
DON'T FORGET THE  CR.  LET'S TRY IT.  HERE IS A QUESTION---
ARE YOU IN CALIFORNIA NOW?  PLEASE TYPE YES OR NO.

**** YES

FINE....

MANY OTHER PEOPLE ARE USING THIS COMPUTER RIGHT NOW.  ONCE IN A WHILE THE
COMPUTER WILL HAVE TO TAKE CARE OF THEIR URGENT NEEDS.  WHEN THIS HAPPENS,
YOU MAY FIND THAT YOU HAVE TO WAIT A MOMENT OR TWO.  DON'T WORRY, THE
COMPUTER WILL COME BACK TO TAKE CARE OF YOU AS SOON AS IT CAN.  WHEN YOU
HAVE READ THIS, TYPE  OK  AND  CR.

**** OK

GOOD.
BY NOW YOU HAVE NOTICED THAT BEFORE YOU TYPE AN ANSWER, THE TYPEWRITER
TYPES STARS LIKE THIS-

****
THIS IS TO LET YOU KNOW THAT IT IS TIME FOR YOU TO TYPE SOMETHING.  YOU SHOULD
NEVER TYPE ANYTHING UNTIL AFTER THE STARS ARE TYPED OUT BY THE COMPUTER.
DO YOU UNDERSTAND?
PLEASE TYPE YES OR NO.

**** YES
ANOTHER VERY IMPORTANT KEY IS THE  /  OR "SLASH" KEY.  IT IS THE GREEN KEY ON
THE BOTTOM RIGHT OF THE KEYBOARD.  LOOK FOR THE  /  KEY (GREEN KEY).  WHEN YOU
FIND IT, TYPE  /  AND  CR.

**** /
SOMETIMES YOU WILL HAVE TO TYPE MORE THAN ONE LINE AND THE COMPUTER CANNOT
TELL IN ADVANCE HOW MANY LINES YOU WILL TYPE.  IN SUCH A CASE, YOU WILL LET
THE COMPUTER KNOW THAT YOU HAVE FINISHED BY TYPING  /  AND  CR.  WHAT YOU
TYPE WILL LOOK SOMETHING LIKE THIS---

**** 1

**** 2

**** /
```

```
LET'S TRY IT.
TYPE  1  AND  CR,  2  AND CR, AND  /  AND  CR.
(WAIT FOR THE STARS).

**** 1

**** 2

****/

FINE...

PLEASE TYPE YOUR ID NUMBER AND A  CR

**** 42
ONE MOMENT, PLEASE.

IS YOUR NAME  DEBORA ANDERSON

**** YES
ACCORDING TO MY RECORDS THIS IS HOW YOU DID LAST SEMESTER.
   CODE     COURSE            GRADE
    1     P.E.                  A
    2     ENGLISH 1             A
    3     GENERAL SCIENCE       A
    4     EUROPEAN HISTORY      C
    5     ALGEBRA               B
    6     SCHOOL SERVICE        A

IS THIS CORRECT?  IF SO, TYPE  YES  IF NOT, TYPE  NO

**** YES
ARE YOU HAVING ANY PROBLEMS WITH ANY OF THESE COURSES?
PLEASE TYPE YES OR NO.

**** YES
TYPE THE NUMBER OF EACH COURSE THAT IS GIVING YOU TROUBLE.
TYPE  CR  AFTER EACH NUMBER.
WHEN YOU ARE ALL THROUGH, TYPE  /  AND  CR.

**** 4

**** /
WHAT KIND OF PROBLEM DO YOU HAVE WITH  EUROPEAN HISTORY
PLEASE TYPE IN THE NATURE OF THE PROBLEM.  A FEW WORDS WILL BE O.K.
WHEN YOU ARE ALL FINISHED, TYPE  /  AND  CR.

**** I DON'T TURN MY WORK IN ON TIME./
I SEE...
IF YOU WOULD LIKE TO DISCUSS THIS PROBLEM FURTHER, MAKE AN
APPOINTMENT TO SEE YOUR COUNSELOR.

WOULD YOU LIKE TO CONTINUE WITH THIS INTERVIEW AT THIS TIME, OR WOULD
YOU LIKE TO DISCUSS YOUR PROBLEMS WITH YOUR COUNSELOR BEFORE YOU CONTINUE?
TYPE  GO  IF YOU'D LIKE TO CONTINUE.  TYPE  STOP  IF YOU'D LIKE TO STOP.

**** GO
DO YOU PLAN TO CONTINUE YOUR FORMAL EDUCATION BEYOND HIGH SCHOOL?

**** YES

WHICH OF THE FOLLOWING IS MOST LIKE THE SCHOOL YOU PLAN TO ATTEND?
1 IVY LEAGUE COLLEGE
2 OTHER COLLEGE OR UNIVERSITY
3 CALIFORNIA STATE COLLEGE
4 JUNIOR COLLEGE
5 BUSINESS OR VOCATIONAL SCHOOL
6 I HAVE NOT YET DECIDED
TYPE THE APPROPRIATE CODE.
```

```
**** 3
DO YOU INTEND TO MAJOR IN ENGINEERING OR ONE OF THE SCIENCES?
PLEASE TYPE YES OR NO.

**** YES
HERE ARE SOME AREAS OF SCIENCE AND SOME EXAMPLES

CODE     AREA                          EXAMPLES
  1    PHYSICAL SCIENCES.....PHYSICS, CHEMISTRY, GEOLOGY, ETC.
  2    BIOLOGICAL SCIENCES...BIOLOGY, PRE-MED, PRE-NURSING, ETC.
  3    SOCIAL SCIENCES.......PSYCHOLOGY, SOCIOLOGY, ANTHROPOLOGY, ETC.
  4    MATHEMATICS...........MATH, STATISTICS, COMPUTER PROGRAMMING, ETC.
  5    ENGINEERING...........ARCHITECTURE, DRAFTING, ELECTRONICS, ETC.

PLEASE TYPE THE  CODE NUMBER OF THE KIND OF SCIENCE YOU INTEND TO MAJOR IN.

**** 3
ALRIGHT.  LET'S SEE IF WE CAN PINPOINT YOUR AREA
    1   PSYCHOLOGY
    2   SOCIOLOGY
    3   ANTHROPOLOGY
    4   SOCIAL WORK
TYPE THE APPROPRIATE CODE.

**** 1
OK...
THE GRADES YOU GET IN HIGH SCHOOL LARGELY DETERMINE THE TYPE OF COLLEGE YOU
WILL BE ABLE TO ATTEND.
LET'S JUST TAKE A LOOK AT YOUR PROJECTED HIGH SCHOOL GRADES BASED ON YOUR
PRESENT PERFORMANCE.  STUDENTS WHO GOT GRADES LIKE YOURS IN JUNIOR HIGH,
DID AS FOLLOWS AT CUBBERLEY---

    70 PER CENT EARNED   A  OR  B
    20 PER CENT EARNED   C+
    10 PER CENT EARNED   C

ON THE BASIS OF YOUR PROJECTED GRADES, YOUR PRESENT COLLEGE CHOICE INDICATES
THAT YOU ARE THINKING PRETTY REALISTICALLY ABOUT YOUR FUTURE LIFE.

NOW THAT WE'VE GOT SOME IDEA OF WHAT YOU'D LIKE TO DO AFTER HIGH SCHOOL, LET'S
LOOK AT YOUR HIGH SCHOOL COURSE PLANS.  IN THE 10TH GRADE, THE REQUIRED
COURSES ARE---

    ENGLISH 2
    CONTEMPORARY WORLD HISTORY AND GEOGRAPHY
    PHYSICAL EDUCATION

WHAT OTHER COURSES WOULD YOU LIKE TO TAKE NEXT YEAR?
LOOK AT THE LIST OF COURSES.
WHEN YOU HAVE DECIDED WHAT COURSES YOU WANT TO TAKE, TYPE  YES.
IF YOU CAN'T MAKE UP YOUR MIND AT ALL TYPE  NO

**** YES
GOOD.
TYPE THE CODE NUMBER OF EACH COURSE YOU WANT TO TAKE.
TYPE  CR  AFTER EACH NUMBER.
WHEN YOU ARE ALL THROUGH, TYPE  /  AND  CR.

**** 70

**** 93

**** 111

**** /
```

```
OK, HERE IS THE PROGRAM YOU HAVE PROPOSED

    ENGLISH 2
    CONTEMPORARY WORLD HISTORY AND GEOGRAPHY
    PHYSICAL EDUCATION

       FRENCH 1
       MATH M 1
       BIOLOGY 1

ARE YOU SATISFIED WITH THIS PROGRAM?
IF SO, TYPE  YES
IF YOU WOULD LIKE TO CHANGE IT, TYPE  CHANGE

**** YES
OK....
THAT LOOKS LIKE A PRETTY GOOD 10TH GRADE PROGRAM.
DO YOU ANTICIPATE TAKING ANY SUMMER COURSES THAT YEAR?

**** NO
OK....
AT THE 9TH GRADE YOUR PROJECTED 11TH AND 12TH GRADE SCHEDULE IS
CONSIDERED TO BE TENTATIVE.  FIRM DECISIONS CAN BE MADE ONLY ON
THE BASIS OF YOUR YEAR BY YEAR PERFORMANCE.  WHAT YOU DECIDE TO
TAKE IN THE 11TH AND 12TH GRADES WILL BE GOVERNED LARGELY BY
WHAT IT IS YOU WANT TO DO AFTER HIGH SCHOOL.  SINCE A PERSON'S
PLANS TEND TO CHANGE OVER A PERIOD OF TIME, YOU SHOULD SEE YOUR
COUNSELOR TOWARD THE END OF YOUR 10TH YEAR IN ORDER TO EVALUATE
YOUR 11TH AND 12TH GRADE PROGRAM IN THE LIGHT OF YOUR CURRENT GOALS.

ALTHOUGH WE WILL BE TALKING ABOUT TENTATIVE PLANS, WHICH YOU WILL
BE ABLE TO CHANGE, LET'S LOOK AT YOUR HIGH SCHOOL COURSE PLANS AS
YOU SEE THEM NOW.

LET'S THINK ABOUT THE 11TH GRADE.

THE REQUIRED COURSES FOR THE 11TH GRADE ARE---

    ENGLISH 3
    U. S. HISTORY
    P. E.

WHAT OTHER COURSES WOULD YOU LIKE TO TAKE IN THE 11TH GRADE?
LOOK AT THE LIST OF COURSES.
WHEN YOU HAVE DECIDED WHAT COURSES YOU WANT TO TAKE, TYPE  YES.
IF YOU CAN'T MAKE UP YOUR MIND AT ALL TYPE  NO

**** YES
GOOD.
TYPE THE CODE NUMBER OF EACH COURSE YOU WANT TO TAKE.
TYPE  CR  AFTER EACH NUMBER.
WHEN YOU ARE ALL THROUGH, TYPE  /  AND  CR.

**** 71

**** 96

**** 43

**** /
OK, HERE IS THE PROGRAM YOU HAVE PROPOSED
```

```
    ENGLISH 3
    U. S. HISTORY
    P. E.

    FRENCH 2
    MATH M 25
    CREATIVE WRITING 1

ARE YOU SATISFIED WITH THIS PROGRAM?
IF SO, TYPE  YES
IF YOU WOULD LIKE TO CHANGE IT, TYPE  CHANGE

**** YES
OK....
THAT LOOKS LIKE A REASONABLE 11TH GRADE PROGRAM.
DO YOU ANTICIPATE TAKING ANY SUMMER COURSES THAT YEAR?

**** YES
GOOD.  TYPE THE CODES OF THOSE COURSES YOU WILL TAKE IN THE SUMMER.
TYPE  CR  AFTER EACH NUMBER.
WHEN YOU ARE ALL THROUGH, TYPE  /  AND  CR.

**** /
ALRIGHT.  THAT MEANS THAT IN SUMMER SCHOOL YOU WILL TAKE---

    DRIVER EDUCATION
NOW LET'S THINK ABOUT THE 12TH GRADE.
THE REQUIRED COURSES FOR THE 12TH GRADE.ARE---

    GOVERNMENT 2
    PHYSICAL EDUCATION

(ENGLISH 4 IS NOT REQUIRED, BUT YOU MAY WANT TO TAKE IT.)

WHAT OTHER COURSES WOULD YOU LIKE TO TAKE IN THE 12TH GRADE?
LOOK AT THE LIST OF COURSES.
WHEN YOU HAVE DECIDED WHAT COURSES YOU WANT TO TAKE, TYPE  YES.
IF YOU CAN'T MAKE UP YOUR MIND AT ALL TYPE  NO

**** YES
GOOD.
TYPE THE CODE NUMBER OF EACH COURSE YOU WANT TO TAKE.
TYPE  CR  AFTER EACH NUMBER.
WHEN YOU ARE ALL THROUGH, TYPE  /  AND  CR.

**** 72

**** 64

****  /
OK, HERE IS THE PROGRAM YOU HAVE PROPOSED

    GOVERNMENT 2
    PHYSICAL EDUCATION

    FRENCH 3
    GIRL'S WOODWORK  S

ARE YOU SATISFIED WITH THIS PROGRAM?
IF SO, TYPE YES
IF YOU WOULD LIKE TO CHANGE IT, TYPE  CHANGE

**** YES
```

OK.....
THAT'S A PRETTY GOOD 12TH GRADE PROGRAM.
DO YOU ANTICIPATE TAKING ANY SUMMER COURSES THAT YEAR?

**** NO
IT IS A GOOD IDEA FOR ALL COLLEGE BOUND STUDENTS TO TAKE 4 YEARS
OF ENGLISH. GIVE THIS SOME THOUGHT.

I HOPE THIS INTERVIEW HAS PROVIDED YOU WITH SOME INFORMATION TO
THINK ABOUT IN PLANNING YOUR HIGH SCHOOL PROGRAM.
IT'S BEEN NICE INTERACTING WITH YOU.
    THANK YOU, DEBBIE
THIS IS THE END OF THE INTERVIEW

APPENDIX B

DESCRIPTION OF A HYPOTHETICAL MAN-MACHINE COUNSELING SYSTEM

The following description is provided to illustrate in detail how the man-machine counseling system might operate.

The man-machine counseling system consists of seven full-time credentialed counselors, one senior programming analyst, one computer programmer and one secretary. One of the counselors, the head counselor, is also a research psychologist. Each counselor has a comfortable office where he can meet privately with his counselees. Three teletype machines are available for communication with the computer. Each of these machines is housed in a small cubicle where they can be used in private.

The counselors spend most of their time with students in their offices, although the first hour of the day may be spent in retrieving information, making decisions, and scheduling appointments. The programming analyst and the programmer work on new computer programs, which are frequently being developed to improve the system, and on the maintenance of the present system. The secretary functions as receptionist, scheduler, typist, and clerk.

A counselor's typical day proceeds as follows. On first entering the counseling complex, he checks the tracking list. This list, which contains the names of all students who may be in need of help and the names of their counselors, was prepared the previous evening. The tracking list was prepared by a computer program that checks the information on the student-information data base tape to determine whether any new information has been added that indicates students are in need of help. The list is printed out on a printing machine with the students' names grouped according to their counselors. The list also identifies each student's problem. The lists for each counselor are placed in his mailbox so that they are available to him the next morning.

The counselor checks the list to identify the students he wants to see, and the secretary arranges appointments for those students as early as they can be scheduled.

The counselor next reviews his list of scheduled appointments and prepares for his interviews by obtaining an up-to-date report for each student. This is done through a man-machine dialogue via the teletype.

After the counselor types his opening request to the system, the system responds: O.K. WHAT KIND OF FUNCTION IS THIS? The counselor types RETRIEVAL OF STUDENT INFORMATION. The teletype next asks for the name of the first student. Following this, by typing in the appropriate messages, the counselor either asks for specific categories of data or requests the total cumulative record. After the student information has been printed out by the teletype, the counselor asks the computer to provide him with a list of all the categories of information for which automated appraisals can be made. The teletype types out the following: APPRAISAL CATEGORIES: VOCATIONAL GOALS, EDUCATIONAL PLANS, EDUCATIONAL PROBLEMS, PERSONAL PROBLEMS, ASSETS, WEAKNESSES, COUNSELING PRIORITY, COUNSELING PROGNOSIS, DIRECTION AND NATURE OF CHANGES, ANALYSIS OF AUTOMATED DIAGNOSTIC INTERVIEW, etc. The counselor types the name of each student and specifies the appraisal categories appropriate to each student. The teletype types out the appropriate appraisal reports for each student.

The counselor studies the new information and decides which students he will see for counseling and which students will take automated interviews. He types a message to the computer saying that he now wants to prepare the computer for the student interviews and indicates kind of interview to be conducted for each student. For some students the message will be: CONDUCT EDUCATIONAL PLANNING FOR NEXT SEMESTER. For others, the messages will be: CONDUCT STUDY APPROACH DIAGNOSTIC INTERVIEW, or CONDUCT PRELIMINARY VOCATIONAL COUNSELING INTERVIEW.

The counselor gives the secretary the list of students who are to take automated interviews. When students come to the counseling center, they first report to the secretary who directs them to the counselor or to a teletype.

The students who are assigned to the automated interviews type in their names. The computer checks to make sure the student is actually scheduled for this time. If he is, the student continues with the interview in a manner similar to that described on page of this document. The computer terminates the interview if the student makes responses indicating that the automated interview is not appropriate and the student should see the counselor.

The computer makes a record of all student interviews and stores on a recording tape all responses suggesting that the counselor should take some follow-up action. Each evening, these recordings are printed out on the off-line printer and are placed in the counselor's message box for the next day.

When the students have completed the automated interview, the report back to the secretary. If they wish to see the counselor or the counselor desires to see them, they wait to see the counselor or make another appointment. Some counselors want their students to be able to get information about themselves when they want it. However, the students must check with the secretary before using the machines.

Teachers also use the teletype to insert information on student progress. The teachers have been instructed to insert test scores and other kinds of data descriptive of student behavior into the student-information data base when they become available.

Counselors also put information into the student-information data base. These inputs relate to things that the counselor has learned in the interviews, such as the description of special problems or the fact that a decision of a particular kind has been made. These data also are input into the system by means of the teletype. From time to time, counselors contact the programming analyst and the head counselor because they want to modify the system. They may have a new hypothesis that they would like to have printed out in the appraisal program whenever the appropriate data are found in student records; or they may want to make a change in the interview. The counselors conduct an active research program in which they test their procedures and modify them to achieve better performance. The automated procedures permit counselors to conduct a systematic research program that would have been impossible before the computer was added to the system.

GUIDANCE MATERIALS, INSTRUMENTS, AND PROCEDURES FOR VOCATIONAL-TECHNICAL EDUCATION.

Moderator: Dolph Camp

Assessment instruments: John O. Crites

Theory and practice: David V. Tiedeman

Occupational classification systems and information: Carroll L. Shartle

Data processing and vocational guidance: G. Truman Hunter

ASSESSMENT INSTRUMENTS AND VOCATIONAL EDUCATION

John O. Crites
The University of Iowa

In discussing assessment instruments and their use in vocational education, I shall assume that what is meant are standardized psychological tests. More specifically, these tests would include measures of general intelligence, special aptitudes, vocational interests, and various aspects of personality functioning and structure. In other words, I shall not refer to such appraisal and evaluation procedures as the interview, sociogram, and rating scale. Rather, I would like to focus just upon tests as assessment instruments, since they are generally more widely used in counseling and guidance activities. I shall begin by briefly reviewing the development of some of the more common tests which have been constructed over the years, in order to gain an historical perspective on their value and usefulness. Then, I shall attempt to ennumerate some of the practical and theoretical shortcomings in traditional tests which have become increasingly apparent as we have begun to conceptualize vocational choice as a developmental process. Finally, I shall describe and report on some new assessment instruments, being constructed as part of the Vocational Development Project at the University of Iowa, which are designed to measure the maturation of decision-making attitudes and competencies during late childhood, adolescence, and early adulthood. I hope that through a consideration of both old and new assessment devices implications can be drawn for their more effective application in the field of vocational education, whether the problem is one of counseling students or selecting workers or utilizing manpower.

A Brief Historical Review of Assessment Instruments

When Frank Parsons, the acknowledged father of vocational guidance, wrote his handbook in 1909 on"Choosing a Vocation", there were no standardized tests, as we think of them today, to assist in the appraisal of an individual's career prospects. It was not until the First World War that some real progress was made in what are known now as "group intelligence" tests. The Army Alpha and Beta tests, measures of verbal and nonverbal intelligence, respectively, were constructed by Yerkes and his co-workers and were administered to thousands of draftees. From the data which were gathered, the first analyses of differences between occupations in intelligence were made by Fryer and Sparling. Soon afterwards, in 1927, Strong published the first edition of his Vocational Interest Blank, and the vocational testing movement was well on its way. Still, there were very few adequate measures of special aptitudes, although Parsons as well as others had long recognized their importance in vocational adjustment. It was not until the establishment of the Minnesota Employment Stabilization Research Institute (MESRI) in 1931 that the first significant work was initiated on the assessment of special aptitudes. Under the direction of the Committee on Individual Diagnosis and Training, which included such pioneer vocational psychologists as Paterson, Darley, and Dvorak, such measures of special aptitudes as the Minnesota Mechanical Assembly Test, Minnesota Rate of Manipulation Test, Minnesota Spatial Relations Test, and Minnesota Clerical Test were constructed and extensively studied. It should be noted also that it was in the early 1930's that two personality tests, the Bell Adjustment Inventory and the Bernreuter Personality Inventory, which were to become well-known in the years to follow, were first published. Thus, the First World War, the Aspirin Age of the 1920's, and the Great Depression marked the beginning of the development of general intelligence, special aptitude, vocational interest, and personality tests.

The next stage in the vocational testing movement largely involved the activities of the Aviation Psychology Program of the Army Air Forces during the Second World War, although individual researchers, such as Dvorak, were also making significant contributions. The primary task with which such vocational psychologists as Flanagan, Super, and Thorndike were confronted was the selection of personnel for Air Cadet training and their classification as pilots, navigators, and bombadiers. Many tests of intelligence, special aptitudes, interests, and personality were devised and tried out, and eventually a battery of measures which had considerable predictive validity for success in training was developed. Our interest is not so much in what these tests were, since the content of most of them is not appropriate for civilian counseling purposes, but in the implications of their construction for subsequent developments in testing. The major impact of the Aviation Psychology Program was to emphasize the application of factor analysis as a method for not only identifying the relatively unique dimensions of ability, interest, and personality but also for isolating the basic components in criteria of performance. It was found, for example, that many special aptitudes, such as spatial perception and visualization, which vocational psychologists had previously assumed to be unitary abilities, could actually be broken down further into more basic factors. Thus, we now distinguish among two-dimensional spatial relations perception, three-dimensional spatial visualization, horizontical and vertical spatial orientation, spatial aiming and positioning, and other spatial aptitude factors. Similarly, criteria of training and job success were factor analyzed into their component parts and "criteria" for criteria were established. In short, it can be said that the Second World War ushered in the era of factor analysis in the construction and validation of tests.

Today, our inheritance of tests from the past half century reflects many of the historical trends which I have tried to trace. First, most of the assessment devices which we use in counseling are of the pencil-and-paper, group type, as were the Army intelligence tests of the First World War. Second, we have tests which have been developed in accordance with both the so-called "empirical" approach, as exemplified by the Strong Vocational Interest Blank, and the "rational" approach, as illustrated by the Kuder Preference Record--Vocational. Finally, we now have a host of aptitude, interest, and personality tests which have been developed through factor analytic procedures. Among these are several multi-factor aptitude batteries, such as the General Aptitude Test Battery of the U. S. Employment Service: a number of interest inventories, such as the Guilford-Zimmerman Interest Inventory; and, a few personality tests, such as the Sixteen Personality Factor Questionnaire. In addition, current trends in test development have produced such instruments as the Edwards Personal Preference Record, which was designed to control the effects of social desirability upon item endorsement, and the Minnesota Vocational Interest Inventory, which, for the first time, provides measures of the preferences of nonprofessional workers. Unlike Parsons, who had no tests with which to assess the vocational capabilities of his clients, present-day counselors are faced with the problem of which tests to use out of the multitude available. In Buros' compilation of Tests in Print, he indexes over 2,100 which have been published, and undoubtedly more have appeared since his survey.

Shortcomings of Traditional Assessment Instruments

When we ask "Which of these hundreds of tests should we use in counseling?", we are usually posing the question "Which of them will best predict the future vocational adjustment of a client?" By vocational adjustment we generally mean the client's success and satisfaction on the job after he has entered the world-of-work. The sad but true conclusion which we must draw is that most of our assessment instruments have little or no predictive validity in forecasting these two major criteria of vocational adjustment. Intelligence tests do differentiate between occupations at different levels of education, responsibility, and skill, as the data from both world wars indicate, but there is also a great deal of overlap between them, so that the brightest lumberjack is about as intelligent as an average accountant. At best, there is only a low to moderate positive correlation between intelligence and success, and no correlation with satisfaction. Vocational interest inventories have even lower correlations with success and satisfaction, although the latter criterion of vocational adjustment, in particular, should be predicted by them. The highest correlations which Strong obtained, however, between his Blank and ratings of satisfaction were in the .20 to .30 range. He concluded that interest inventories predict occupational stability, i.e., staying in an occupation for a long period of time, but not occupational satisfaction. Finally, the evidence on personality tests is even more negative. There are only scattered instances of either objective or projective personality measures being related to success and satisfaction.

Aside from the problem of how well tests can predict vocational adjustment, there is another shortcoming of our traditional assessment instruments, which may be even more serious. These measures of ability, interest, and personality were developed within a conceptual framework which has come to be known as the "matching men and jobs" or "trait-and-factor" approach, which consists of three assumptions or principles: first, that by virtue of his unique psychological characteristics each worker is best fitted for a particular type of work; second, that groups of workers in different occupations have different psychological characteristics; and, third, vocational adjustment varies directly with the extent of agreement between worker characteristics and work demands. This way of conceptualizing vocational adjustment is basically sound as far as it goes, although the empirical evidence for differential patterns of occupational aptitudes, interests, and especially personality characteristics is often equivocal or lacking. What the "matching men and jobs" or "trait-and-factor" concept of vocational adjustment overlooks is the developmental nature of choosing, entering, and progressing in an occupation. Within the past decade and a half, vocational psychologists have become increasingly aware that vocational choice and adjustment are not just point-in-time events; they are processes which begin early and continue until late in life. More and more we talk about the vocational maturity of our clients, whether they are fifth graders, high school seniors, or middle-aged workers. But, we cannot measure vocational maturity, as yet, because our traditional assessment instruments are inappropriate. They are from another era--that of "matching men and jobs", not that of contemporary vocational development theory.

It must not be concluded, however, that the tests which have been developed for so many years have no utility for counseling. They do, but I would like to suggest that it is of a different kind than we have usually assumed. A client generally comes for counseling not only to solve a problem, such as the choice of a vocation, but also to find out what kind of person he is--to understand himself better. In fact, it can be argued that self-understanding, rather than specific decision-making, may be the more important outcome of counseling, whether it is vocational or personal. For, if a client can know himself better--acquire a realistic picture of his assets and liabilities--he should be better prepared not only to solve his immediate problems, but also those he may encounter in the future, after he leaves counseling. Our traditional tests can provide a client with the information he needs, if they are used for description rather than prediction. By description I mean the client's standing in the various norm groups for the tests he has taken. Thus, he may be above average in general intelligence; average in most special aptitudes, except for superior clerical speed and accuracy; interested primarily in Things rather than People; and, introverted in interpersonal relationships. Once a description of a client has been made, it may then be possible to identify through analysis and inference the problems which he is experiencing or may experience as he develops vocationally. But, our existing tests cannot give us an estimate of either a client's degree of vocational development--the vocational life stage he has reached--or his rate of vocational development--the extent to which he has matured vocationally relative to his peers. For this purpose new assessment instruments are needed.

A New Assessment Instrument

To fill this need, at least in part, the Vocational Development Inventory (VDI) has been constructed at the University of Iowa as part of the Vocational Development Project sponsored by the U. S. Office of Education. The VDI consists of two parts, the Competence Test and the Attitude Scale, which are designed respectively to assess the aptitude and attitude dimensions of vocational development. The Competence Test has five sub-tests, each comprised of 30 multiple-choice items with five foils. Part I is the "Problems" test and supposedly measures the ability to resolve conflicts between the factors in vocational choice. Part II is the "Planning" test, in which the task is to order the steps leading to a vocational goal in a logical or chronological sequence. Part III is a test of occupational information covering knowledge of job duties and tasks, trends in the occupational distribution of workers, and employment opportunities for the future. Part IV is the "Self-Knowledge" test, scored against objective test information for accuracy of estimated aptitude, interest, personality, and social traits and characteristics. Part V is the "Goal Selection" test, the items of which require the examinee to choose the "best" (most realistic) occupation for a hypothetical individual who is described in terms of his aptitudes, interests, and personality characteristics. The functions or processes which are supposedly involved in taking the Competence Test, then, are largely what might be designated as comprehension and problem-solving abilities as they pertain to the process of vocational choice.

In contrast, the Attitude Scale is composed only of self-descriptive statements about an individual's vocational attitudes and behaviors. It was designed to elicit the dispositional response tendencies in vocational maturity which are nonintellective in nature, but which may mediate both choice behaviors and choice aptitudes. The items for the scale were developed from a combination of the best features of the rational and empirical methods of test construction. Ten to 20 items were written for each of the following dimensions of vocational maturity: involvement in the choice process, orientation to work, independence in decision-making, bases for choice (i.e., interests, capacities, and values), and conceptions of the choice process. From this initial item pool, a scale was then constructed, each item of which was empirically related to age and grade between the upper elementary school years and the senior year of high school. Illustrative of the items which were finally included in the Attitude Scale are the following:

1. Once you make an occupational choice, you can't make another one.
2. Work is drudgery.
3. You get into an occupation mostly by chance.
4. I plan to follow the occupation my parents suggest.
5. I seldom think about the occupation I want to enter.

An examinee responds to 50 items like these by indicating whether he agrees or disagrees with them, and his vocational maturity score is the total number of responses he makes which are like those of 12th graders, the criterion group used in standardizing the scale.

Considerable research must be done before the VDI is ready for use in counseling, but a start has been made. Experimental forms of the Competence Test will be administered this spring to 5th through 12th graders to determine which items differentiate among these educational levels. Also, the Attitude Scale will be administered for the fifth consecutive year this spring, and sufficient data will then be available to begin longitudinal analyses of its validity. Preliminary studies of its internal consistency and test-retest stability have already been completed, and the results have been encouraging. It is hoped that by this summer a manual on the Attitude Scale can be prepared which will report normative and research data from several independent projects, including investigations of specialty oriented students in business, technical, and trade schools; evaluations of the effects of Neighborhood Youth Corps programs; prediction of college achievement; outcomes of secondary school guidance activities; and, correlations with intelligence, interests, personality variables, family background, school experiences, and vocational success and satisfaction.

Summary

To briefly summarize, my main point in this discussion of assessment instruments has been that our traditional measures of ability, interests, and personality are not sufficient, either practically or conceptually, to do the job that needs to be done in counseling. These tests may best be used for description rather than prediction, and they need to be supplemented with reliable and valid measures of vocational maturity.

GUIDANCE AND VOCATIONAL COMPETENCE: A THEORY FOR IDEAL PRACTICE

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THE STATUS OF PROFESSIONAL THEORY IN GUIDANCE

Theory in Guidance: In 1961 Tiedeman wrote that we are presently almost devoid of theory in guidance.[1] This is a condition which unfortunately still exists: behind it lies a lack of theory in life.[2] The value of theory is not just in what it explains; it is also in what it allows us to know we are without. (If we believe the theory, that is.) A major premise of this paper is the belief that, because we are without theory in guidance, we fail to realize that vocational-technical education is necessarily deprived of interest in the liberating aspect of education.

The purpose of Guidance: In the practice of guidance, an adult places himself in relation to a child or another adult, with the intention of helping that person. The first question is: "What does the counselor help the other to do?" The second question is: "How does the counselor help the other to do it?" Unfortunately the theory of guidance has principally developed in respect of only the second question.

The question of what the counselor helps another person to do is directed at the purpose of guidance. This, we suggest, consists in helping another to assume responsibility for his life. Therefore, the primary object of concern in the practice of guidance, wherever in education it takes place, is the degree of initiative which the person himself assumes and maintains.

Guidance in relation to Behavioral Science: The purpose of guidance is therefore different from the purpose of behavioral science. The purpose of behavioral science, at least as it is now principally patterned on the model of physical science, is for the scientist to learn what is likely to happen to persons who are subject to his theory. Whether or not those persons themselves know what is likely to happen is irrelevant -- in fact the scientist may deliberately withhold such knowledge from them. Thus the behavioral scientist is expressly not concerned with the use to which the persons may put such knowledge as it is made available to them; or with the way in which examination of knowledge may shape their action and so affect the final outcome. In the context of behavioral science, theory can be applied by an adult with the intention of helping another person, without the person's knowledge.

Educational theory: As a result, applications of behavioral science are basically not co-extensive with the purpose of guidance. We need an enlarged theory -- an 'educational' theory -- which places the person at the center. In education, the person exists in relation to facts and/or data which other people hold him responsible for assimilating. A primary concern in considering a person's relationship with facts/data is whether he does eventually come to realize that he alone is responsible for knowing.

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[1] David V. Tiedeman, The Status of Professional Theory. Cambridge, Massachusetts: the author Larsen Hall, Harvard Graduate School of Education, 1961. (Mimeo.)

[2] Gordon A. Dudley, and Wallace J. Fletcher. Personally Determined Career and Entrepreneurial Behavior: Notes and Comments on a Dialogue. Cambridge, Massachusetts; Center for Research in Careers, Larsen Hall, Harvard Graduate School of Education, 1965. (Mimeo.)

The application of educational theory thus poses the dual problems of presentation of facts/data, and responsibility for assimilating/knowing. The guidance mode of educational theory ranks the second of these two problems above the first. Guidance places primary emphasis on responsibility for analyzing and using information; secondary emphasis on presentation. This is why it is to be regretted that guidance theory has developed principally in respect of presentation. Thus the analysis of experience is the primary mode and experience the primary data for the practice of guidance.

A predicament arises from this belief in individual choice, at the same time as the student is required to accept responsibility for assimilating what is offered. The student is subject by the teacher to a dual expectation that he both 'know how' and 'know why'; and by the counselor to a separate dual expectation that he be responsible for know, and for using his knowledge to 'chart a course for his life activities,' including vocational activities. Students who come to understand this predicament achieve understanding of the need to take personal responsibility for solving the vocational problems which confront them; and are able to use such understanding as the basis for purposeful action designed to solve the problems in terms acceptable to themselves as well as to others.

The practice of Guidance: Understanding can come from reflection upon activity, as well as from suggestion and teaching from others. The analysis of activity/experience is the primary mode and data for the practice of guidance. Thus it becomes as important to teach the young how to frame a problem, as it is to teach them efficient modes of choice among alternatives once those alternatives emerge from the definition of problems. It is in the availability of opportunities for reflection upon activity, that vocational-technical education appears to be particularly rich.

IMPLICATIONS OF THE STATUS OF PROFESSIONAL THEORY IN GUIDANCE FOR VOCATIONAL-TECHNICAL EDUCATION

The practice of vocational-technical education has lately been subject to strong criticism from outside its membership. Undoubtedly you practitioners have long recognized the principal difficulties in vocational-technical education which now meet with occasional public scorn. Remember, however, that while such criticism may come from experts, an 'expert' is 'a man from out of town who wears a bow-tie.' Listen and learn from "out-of-town experts," but don't sell your basic contribution short. Vocationalism can be a liberating element in education if conceived and organized well. This is the main point we aim to make through this analysis.

Vocational-technical education necessarily exists in academic communities. In academic communities, thinking is valued over doing. Vocational-technical educators emphasize that one can think while doing. Furthermore, they stress that one can learn from analysis of the very process of doing. Therefore, vocational-technical educators almost by definition cannot be 'right' in academic communities.

What is learned in vocational-technical education differs from what is learned in class alone. The criterion in vocational-technical education is an accomplished task; not just the recall of an alleged fact. Nor is it skill alone this is acquired; it is actual confidence in one's capacity to meet new situations and to do what is necessary to satisfy those with whom one must collaborate. It is in the process of doing in partnership with thinking -- doing primarily in relation to what one knows and thinks, and only secondarily in relation to what the instructors tells -- that initiative is exercised in vocational learning. This is the exercise of initiative for which vocational-technical education offers continuing opportunity; which scientific education places in subordinate relation to assimilation of facts/data; and which liberal arts education finds it hard to make any formal place for at all.

The fact that theory in guidance is in the condition just sketched contributes to the difficulties to which vocational-technical education is presently subject in academic communities. Because we professionals in guidance do not have much theory beyond behavioral science theory, it is not possible to justify the basic condition of vocational-technical education, namely examined experience. As already noted, the primary game of behavioral science is for the scientist to learn what is likely to happen to people, without the participation of those people. This game primarily excludes learning through experience as a mode of acquisition for anyone but the scientist. Yet experience which is examined and criticised as it happens, or soon thereafter, is just what vocational-technical education is organized to provide. You in vocational-technical education should expect more support for your primary mode from those of us in guidance than you receive of late.

How should the modes and data differ in vocational education? This is the question which will come to the fore as we move to further support of each other in an interactive manner in the future. Therefore, the next step in this argument is that of offering a distinction which promises possibility for differentiation in our similar but not identical modes of activity. Perhaps together we can overturn the common belief that thought is suspended during action, and that thought must always be completely tutored before action is permitted.

VOCATIONAL COMPETENCE: A NEW GOAL FOR VOCATIONAL TECHNICAL EDUCATION

We recently drew attention as have others to the impact of increased rate of change in occupational opportunity but, unlike others, did not suggest elimination of supervised practice in vocational-technical education. We have no desire to ignore the present just to be "better" in the future. Therefore, we concluded that:

> "...vocational success in youth and adulthood today depends upon two kinds of competence. The first is competence in acquiring and using the skills and knowledge required by the individual's commitment to a particular program or occupation -- occupational competence.
>
> "The second is competence in dealing with changes in the vocational life, in a manner which will enable the individual to achieve and maintain a continuing degree of mastery over his vocational environment -- vocational competence. The individual today needs to refrain from regarding any situation as permanent and unchangeable. Instead he must maintain a certain degree of tentativeness in his attitude towards his current vocational experience such that he can meet change with resilience, whether it be imposed by others or elected by himself."[3]

Thus each student must develop not only skill in his elected occupation (occupational competence). He must develop his own goal and his own basis for wanting that goal (vocational competence). Otherwise, he will later act automatically; he will not have assumed responsibility for choosing and pursuing his own path in life. The student must be given opportunity to choose; furthermore he must be held accountable for his actions in the pursuit of his elected alternative; finally the student must have opportunity to give up and start afresh if he begins to discover that the demands for action and belief required in his instructor's craft are incompatible with what he presently either accepts and/or wants. The responsibility for supervision of judgments of this nature must rest with the counselor. The counselor must see to it that the student lends his own meaning[4] to the opportunities for choice inherent in the performance of the elected craft. In order to accomplish this aim, the student needs the help of the counselor who is neutral but not unsympathetic to the premises of the instructor's craft (occupational competence); but is committed to the premises of his own craft -- namely, to see that each pupil has adequate opportunity and help in finding his own meaning in life (vocational competence). We shall return to this distinction between the roles of instructor and counselor in a moment.

If the vocational school would espouse responsibility for the cultivation of this will to meaning, it seems likely that some of the frequently expressed misunderstandings between vocational and so-called liberal education could be dissolved. The advocate of liberal education fights for individual responsibility in the selection and substantiation of life goals. Vocational education necessarily inducts students into a craft which then limits their alternatives.

The program of guidance in vocational-education should be given the authority, opportunity and resource necessary for supervision of the student's responsibility for choosing as he passes into the restraints of work from those of study. It will be to the credit of neither vocational-technical instructor nor counselor if either fails to understand the complementary and necessary nature of both commitment to occupation and tentativeness towards vocation -- i.e. career. Without commitment, the vocational-technical instructor is perfectly right in presupposing that a student-apprentice will not prove out in his occupation. However, without tentativeness, it is equally likely that in today's world, the student apprentice will not prove out in his vocation. Today's citizen needs to develop both commitment and tentativeness towards work. Neither alone is any longer enough. Occupational competence and vocational competence are the goals we both need to get our publics to accept for our united work.

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[3] Eileen Morley and David V. Tiedeman. Vocational Competence: The Capacity to Deal Confidently with the Certainty of Change within the Uncertainties of Career. Cambridge, Massachusetts: Center for Research in Careers, Larsen Hall, Harvard Graduate School of Education, 1965. (Mimeo.)

[4] Victor E. Frankl. Man's Search for Meaning: an Introduction to Logotherapy. Boston: Beacon Press, 1959.

We suggest to you that vocational-technical education possesses a major resource for development of both occupational and vocational competence in parallel. This resource resides in the nature of the student experience, as he: (1) assimilates information and applies his resulting knowledge in activity under direction of the instructor; and (2) examines the experience of that activity under direction of the counselor. Possessing this resource vocational-technical educators and counselors should not fail to make maximum use of it.

Socialization: Becker[5] has pointed out that vocational students lack the opportunity for socialization which is inherent in the university experience. The assumption is usually made that having selected his goal on entry to vocational-technical school, the student needs only to acquire the skills which will permit him to take his place in the plant in which his talent might be needed. Such is far from the case. The vocational student particularly needs opportunities to develop skill in the human relationships to be met within his work life, through instruction and practice and evaluation of experience in human relationships. Otherwise, he may be unable to cope with the formal and informal demands of superiors and colleagues on the job. Weakness in such coping mechanisms leaves him with weakened defense and decreased confidence. Although there is not place to examine this issue in greater depth here, we draw attention to the potential for strengthened competence in interpersonal relationships, as a dimension which the collaborative efforts of instructor and counselor may add to the vocational-technical student experience.

STRUCTURING OF VOCATIONAL-TECHNICAL EDUCATION FOR VOCATIONAL COMPETENCE

The above distinction between occupational and vocational competence -- based as it is on the distinction between commitment and tentativeness -- can also distinguish the work of the vocational-technical instructor from that of the counselor.

Supervision for occupational competence. The instructor provides occupational experience for his students while they are in apprenticeship to him[6] In this condition, the vocational-technical instructor seeks commitment to his field of occupation by his students. Furthermore his supervision of their experience is designed to make his apprentices more skillful and confident in the specific work to which they are apprenticed. Whatever, these student-apprentices elect to do, they must be taught and encouraged to do well. After all, they seek to become masters!

The incontrovertible mark of the vocational-technical instructor is his supervision of students as they practice his craft. The classroom teacher brings students into transaction with facts and ideas alone. The instructor in vocational-technical education brings students into transaction with facts and ideas, materials, machines and people; and in the course of this transaction he enables the student to create a product which has value to himself, to the instructor, and to others. We suggest that teaching through vocational-technical education differs from teaching through lectures insofar as:

(1) Both thought and action are under the direction of the vocational-technical instructor.

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[5] Howard S. Becker. Schools, Growing Up and Non-College Youth. Stanford, California: the author, Stanford University, 1963. (Mimeo.)

[6] We regret having to use this word in only a loose manner in an audience for whom it ordinarily has a technical meaning. However, we merely mean to connote that form of learning, in which a person places himself in relation to an expert so that he will learn from the expert as he is given gradually increasing responsibility for the execution of tasks designed to produce the same product as the expert ordinarily produces.

(2) Students are encouraged to assume responsibility for their own action within limits prescribed by the instructor.

(3) Vocational-technical supervision is not simply a broadcasting of facts/data. It includes major elements of review, criticism and planning. It thus includes responsibility for helping the student learn through examination of activity/experience.

(4) The principle products of supervision are two-fold: (a) occupational competence; and (b) personal confidence derived from experience of, and not merely the expectation of, power in action.

Supervision for Vocational Competence. The vocational-technical counselor attempts to make this same occupational experience simultaneously of use to the person in acquiring vocational competence. The counselor encourages among students the will to purposeful action through education. Tiedeman has elsewhere defined purposeful action; noted the risk to freedom which is assumed in cultivating the will to purposeful action through Guidance-in-Education; and specified the division of duties between teacher and counselor necessary for minimizing the risk to freedom while seeking the will to purposeful action in education.[7] The necessity of the division of responsibility between instruction and counseling is emphasized here because the instructor in vocational-technical schools approaches the duties of the counselor more closely than does the lecturer-teacher in secondary schools. The task of the vocational-technical instructor is to provide access to a specific occupation however. The task of the counselor is to encourage assumption of responsibility for action in life. Of course the task of the instructor becomes difficult when the counselor does not succeed in getting youngsters to realize their responsibility to know and to act upon knowledge. On the other hand, the counselor suffers similar frustration when the instructor fails to show the path by which the young may preparedly start out upon the course charted by adults.

RE-ORGANIZATION FOR ATTAINING THE IDEAL OF VOCATIONAL COMPETENCE THROUGH GUIDANCE-IN-VOCATIONAL EDUCATION

Today we challenge you to turn vocational education into a liberating education. The task can be done when you incorporate counselors into the staff, provided that:

(1) these counselors have an understanding of the goal, and the capacity to attain that goal reasonably frequently through professional action;

(2) you organize instruction and counseling so that they are related in the complementary fashion outlines; and

(3) you ensure that the option to act with intent is recognized as belonging to the student alone.

Role of the Counselor. Counselors should be expected:

(1) to contribute from the theory of career development to the justification of vocational education, and to the organization of vocational-technical resources to optimize career development in pupils; and

(2) to be committed to the performance of the clinical activities needed to achieve the goal of cultivating the will to purposeful action. (The term 'clinical' here refers to those acts of judgment which the counselor must personally perform in order to cultivate the will to purposeful action most efficiently in each case.)

In these two functions the counselor will be most closely concerned with the vocational development of the individual student, (1) as he achieves integration with regard to the choice of the craft itself, and (2) as he anticipates and moves into the discontinuity which consists of the passage from vocational school to the first job.[8]

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[7] David V. Tiedeman. "Occupational Guidance." In Ziel, H.R. (Ed.) Education and Productive Society. Toronto: W.J. Gage, Ltd., 1965. pp. 124-166.

[8] David V. Tiedeman, and Robert P. O'Hara. Career Development: Choice and Adjustment. New York: College Entrance Examination Board, 475 Riverside Drive, 1963.

The Complementary Relationship of Instructor and Counselor. Because the basic data used by instructor and counselor in vocational-technical education are so similar, instructor and counselor will need to work in close association through consultation over cases. The powers of each must be clearly delineated, and each must strive to recognize and derive strength from the other's expertness.

Counselor-student ratio. Counselors believe that they can be responsible for not more than 250 students if they are to do an adequate job. This ratio does not take account of class and craft observations and counseling and consulting sessions arising from such observations. Probably one counselor per 100 students is a realistic estimate. If asked to be responsible for more than 150 students, we find it difficult to believe that the counselor could successfully foster the evolution of purposeful action in each.

Auxiliary Psychological Services. The counselor should expect to find that 8 - 15% of students in his charge lack the ego-development fundamental to the will to purposeful action. Although the decision to provide psychotherapy for students should be an individual matter for the administration of a particular vocational school, the school system as a whole cannot afford to ignore the problem. It must determine how to cope with such students; it must decide whether to use counselors qualified in psychotherapy in this area; and if so, how other activities from which their time must be withdrawn shall be undertaken. As you face the problem, remember that the school system ordinarily makes decisions about its psychotherapeutic responsibilities in consultation with psychologists and/or psychiatrists who reside in the community.

AND SO TO ACTION

In conclusion, we urge the vocational-technical school to accept responsibility for the attainment of liberation through education. However, the vocational school suffers in two ways with regard to the objective of liberating through vocational education. In the first place, the public does not expect the vocational school to liberate students through its program. In the second place, the public does not believe that liberation can be achieved by training for a technical goal. In arguing that vocational education should assume the goal of liberation through education, we have pointed to how this goal can be facilitated. If vocational-technical education incorporates vocational as well as occupational competence as a goal for students, the goal of liberation through vocational education becomes possible and guidance services prove indispensable. However, the attempt will require other modifications in program and budget. Therefore although we sincerely hope you will accept our challenge, we will understand if you do not.

OCCUPATIONAL CLASSIFICATION SYSTEMS AND INFORMATION

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Occupational and industrial classification and information schemes are based on the purpose intended for the system. They are basically of two types. Type I is to meet the internal requirements of particular organizations and Type II are those systems which cut across organizations and are oriented toward broader problems including population, labor force, education, counseling and placement.

The Type I or in-house systems predominate in larger business and industrial firms and in municipal, state and federal agencies. The most frequent use of such systems has been to provide hierarchies of jobs which may be related to pay scales. Job descriptions which are usually prepared are an aid in hiring, job training, promotion and transfer. At higher levels in the organization the job information is not only useful in setting salary levels but likewise in working out organizational changes and staffing problems. In our most technologically advanced organizations we have the development of manpower models, and man-man and man-machine systems. Some of the most advanced systems are found in the Department of Defense and in the National Aeronautics and Space Administration and their contractors. Considerable research is done on systems and organizational behavior. In fact it is one of the fastest growing technologies.

The in-house or establishment occupational complex is of course of great importance to us. To counselers and educators it too frequently represents a great unknown and sometimes frightening picture. But it is here that people work and it is in the establishments our trainees will fail or succeed, whether the system is a two person grocery store or an organization of a hundred thousand employees.

Now let us look at Type II occupational classifications and information.

We all know that the Census classification which began years ago with a few titles when occupations numbered a dozen or so, grew somewhat haphazardly into the present arrangement. Obviously the purpose here is to obtain the numbers of persons in various pursuits. This is essential and worthy purpose but unfortunately the census classification became so dominant in the federal government that the Bureau of the Budget, to avoid duplicate effort, placed restrictions on new approaches for years. For example, the Dictionary of Occupational Titles first edition 1939 (printed and released in 1940) had new data--in fact the first comprehensive job data with job analyses from 20,000 establishments, but it was required that its classification bear an unfortunately close resemblance to the Census. I must add, however, that there was a certain rationale for this restriction because the most powerful justification for funds and personnel in developing the D.O.T. was that by defining occupations the statistical data on employment and unemployment collected by the public employment offices would be much more accurate reflection of the true situation.

As one would expect the D.O.T. classification had severe limitations for counseling particularly for the inexperienced and for older persons who must change occupations. There was less difficulty for the older group because the D.O.T. classification did have within its system many logical groupings based on industrial designation and work performed. This was supplemented later by occupational families or groupings where the number of variables could include both job performance and job requirement items--a forerunner to the McBee Keysort display which contains the basic data for the third edition of D.O.T.

The original dictionary had three parts, Definitions in Part I and the code structure in Part II. Part III contained a conversion code from the old Employment Service system to the D.O.T. It was used a few months and was then destroyed.

To cope with the D.O.T. inadequacies for inexperienced applicants a new classification was developed which was a great improvement and was published as Part IV D.O.T. Worker traits received much more emphasis. There were additional input data including an analysis of 10,000 employer orders where job experience was not a reported requirement. This was during a labor shortage period. Part IV has received wide use.

After this there was slow but significant progress including a pilot study in 1956 entitled "Estimates of Worker Trait Requirements for 4,000 Jobs as defined in the Dictionary of Occupational Titles"-- sometimes because of its cover called the "green monster." This newer approach to job classification was utilized for the third edition of the Dictionary with greater emphasis on training requirements and worker abilities and traits.

I should like to point out here that there are two basic approaches to determining (I should say inferring) what aptitudes, abilities and temperaments are required for jobs. One is the testing method and the other is the rating method.

In the testing method we administer tests to workers in jobs. Then using test score ranges and correlational techniques we infer the required abilities, aptitudes or traits. The great injustice of this method is that we tend to freeze the status quo. We are really assuming that worker "A" who is successful in his occupation belongs to some other occupation. In other words we assume perfect vocational guidance and vocational selection.

The second approach is the rating method whereby trained persons observe a job and/or study the written descriptions and rate "how much" or "how important" each of a list of traits is for job success. The difficulty is, of course, that these are estimates not measures. The advantage is that the requirements of the job or occupation are indicated regardless of who now happens to be working in it. Future jobs which are presently only on paper can be rated and selection and training programs can be established so that qualified persons will be available when the jobs open up. If the training program is an appropriate one we would expect that a high proportion of those who complete it will be successful.

In preparing the new D.O.T. both of the foregoing methods were used insofar as possible to arrive at job requirements. While one can always question the validity it seems to me that the new D.O.T. is the best material we have as yet for occupational groupings.

The new D.O.T. contains definitions of 21,741 separate occupations which are known by 35,550 titles. Persons often make a mistake when they think the number of titles is the same as the number of occupations. Because of technological change and improved classification methods there are actually fewer occupations in the third edition than there were in the previous one (including its supplements).

The classification structure of the new D.O.T. is both conventional and new. The first three digits are somewhat conventional groupings such as

00-19	Professional, Technical and Managerial
	001 Architechural Occupations
20-29	Clerical and sales
25	Salesmen
	251 Salesmen, securities
30-38	Service occupations
	311 Waiters, waitresses and related food service occupations
40-45	Farming, fishery, forestry and related occupations
	411 Dairy farming occupations
50-99	Industrial occupations
60	Metal machining occupations
	601 Toolmakers and related occupations

Here we see resemblance to the census system and the International System.

Gone from the new D.O.T. are such classification titles as skilled, semi-skilled and unskilled, but we do find three digits--the last of the six which are based on job complexity in regard to the use of or interaction with data, people, and things. This is new and I think a great improvement. It provides new clues to the entry and the progression possibilities within occupational groups.

It is no easy task to arrive at three functional categories that are applicable to all occupations. It is easy to think of other possibilities but when it comes to applying a scheme to 22,000 entities that is something else again. I have tried some of these myself and all have their perplexities and blind alleys.

There are eight categories under data ranging from synthesizing to no significant relationship.

Under people there are nine levels, the top one being "Mentoring: Dealing with individuals in terms of their total personality in order to advise, counsel and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual and/or other professional principles."

Things represents the 6th and last digit in the Dictionary with nine levels; the top one being the "setting up of machines, fixtures, jigs--"

Applying the total six digit system we find

601.130	Tool and die foreman
601.885	Tool dresser helper

A second new set of occupational groupings is provided which I think should be of particular interest to you. It is known as the Worker Trait arrangement. These groupings are based on estimated required aptitudes, interests, temperaments, physical demands, and general education and special vocational education. There are 117 of these categories with assumed common qualification profiles. They are arranged under 22 broad areas of work such as art, clerical work, entertainment, elemental work, machine work, merchandising, etc.

The profile ratings are the individual characteristics required "of a worker in order to achieve average successful job performance." The components are

General educational development

> Six levels ranging from high level reasoning, mathematical competence or language development to simply applying common sense.

Specific vocational preparation

> Nine levels ranging from over 10 years such as a symphony orchestra leader to a short demonstration such as a nail puller.

Aptitudes including general learning ability, verbal, numerical, spatial, form perception, clerical perception, motor coordination, finger dexterity, manual dexterity, eye-hand-foot coordination,and color discrimination. There are 5 levels for each. Level 1 represents the top 10 per cent of the population and level 5 the lowest 10 per cent, and the 3 level the middle third.

Interests which are preferences for certain types of work. There are 10 categories such as "working with people for their presumed good."

Temperaments -- with 12 categories and representing different types of occupational situations to which one must adjust such as "working alone and apart in physical isolation."

Physical demands -- such as lifting, carrying, climbing, reaching, seeing, and hearing.

Working conditions such as inside, outside, cold, heat, noise, hazards and fumes.

Thus far I have been speaking of occupational and job classification. Industry classification is likewise important in our picture of the world of work. Some persons identify themselves more with an industry than with an occupation. The D.O.T. does identify occupations with industry but I think this edition places less emphasis on industry per se. This I think is in the right direction. Occupations cut across industries in terms of their content and qualifications. Shifting from one inudstry to another is often necessary. Some industries are on the decline as are some occupations. I feel that it is really the job content and the job environment that is the important thing. I think vocational and technical guidance and training should beware of having its counselees or students industry orient at the expense of the job content orientation.

Time does not permit me to discuss industrial classification in any detail. We do have two well known systems. The National or U. S. System and the International System. We have approximately 1,500 industry groups in the Standard System. Industrial classification is based on the establishment or work place rather than on the firm or company. For example, in the Standard System an oil company refinery would be in one industry and its service stations in another. The Dictionary gives industrial designation to occupations that are found in a particular industry. It is not related to the Standard System. There are 229 such "industries" defined and listed alphabetically from "abrasive and polishing products" to "woodworking." The appropriate job titles are listed after each industrial title. It is interesting to note that the largest listing is under "any industry" and includes over 1700 occupations.

In this paper I have reviewed two types of occupational classifications and information. Type I which is within the employing organization and Type II which is more general and cuts across establishments and industries. The latter is broader and of course much less specific. One of the greatest problems is relating Type I to Type II. To cover everything the two should somehow be combined or at least intimately related. One must know his community and local establishment picture, no matter how complex, and at the same time the overall general occupational and industrial framework. This is a task to behold even for a counselor or educator who represents our top intellectual category.

During and following World War II some encouraging work was done in relating Type I and Type II information. Manning tables, showing the number of positions in each of 8,000 establishments according to D.O.T. code were prepared. Using a sampling procedure industrial manning tables showing the occupational pattern by industry were developed. In ship building for example, the proportion of workers in each D.O.T. classification was shown for a typical establishment.

I think each community should have an occupational atlas. This is possible with our modern computer techniques. Type I and Type II data could be stored and various occupational opportunity patterns could be assembled at will. We should do some action research in several communities to develop methodology and the techniques of application. Some day I am sure this will be developed on a national scale also. It is long overdue.

We also should try out new theoretical orientations experimentally. At various times, for example, we have had additional occupational classification schemes such as those of Roe, Super and others. These may make good sense from a theoretical point of view but the fitting over 20,000 occupations within the framework to make it practicable has not been done. With the new D.O.T. and with the data on each occupation now on cards it is possible for an investigator to try out new theoretical models using an abundance of data on thousands of occupations and hundreds of industrial designations. It is a gold mine and I trust that competent researchers will take advantage of the opportunity. The new D.O.T. is a foundation document from which I am sure we will move forward into many exciting innovations.

DATA PROCESSING AND OCCUPATIONAL GUIDANCE

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Data Processing and Occupational Guidance

Every day another newspaper or magazine article appears which discusses the "brave new world of the computer," the "challenge of automation," the "impact of technology" or some similar topic. Some of these articles take the "gee-whiz, it's wonderful" approach, others blame anything and everything on computing machines, and still others treat the subject in a positive, objective manner.

In the field of occupational guidance for example, much has been written about the use of machine making education impersonnel and stereotyped. But every day it is being demonstrated that the use of any of a wide variety of data processing machines is the only way educational systems can provide truly personal and individual education. Some of the areas in which this is being accomplished include:

- -- Test scoring and analysis;
- -- Computer-assisted instruction;
- -- Simulation training procedures;
- -- Research;
- -- Teacher education;
- -- Job placement; and
- -- State and national employment services.

The Use of Computers in Test Scoring and Analysis

A good guidance function requires accurate and timely information about the person involved. Data processing machines, including simple punched card machines, can be helpful in this type of record keeping function. Some of this information should be in the form of test scores either on regular academic subjects or on special aptitude tests or both. Machines already have an important role in test scoring. They will play even a more important part in the future as they do more and more work in test analysis.

Machines have been available for simple test scoring for about thirty years. Up to now, the machine has done just what the name says, it provides a score for the individual test sheet.

As small computers have become available to school districts and colleges, some people have gone beyond getting raw scores and percentile scores. One program prints the raw and percentile score for each student as well as a list showing the distribution of all scores. It then prints an item analysis report. This report shows the number of persons who answered each of the possible true-false or multiple choice options on the test as well as the number who gave no answer to each question. The same kind of item analysis is then repeated three times: once for students who made scores of 85 and above, then for students who made scores from 65 through 84 and finally for the students who scored below 65.

With this kind of information available, a teacher has a far better idea of who and what the test was testing.

If a test is used only to get a score, for the purpose of preparing a report card, it is really not doing very much for the student. In the ideal situation, the entire education system should be devoted to giving the student the best possible education. A testing program should be used to point out a student's difficulties and trigger a procedure to help the individual student to overcome those difficulties.

Imagine, if you will, a test where some or all of the questions in addition to testing subject matter could also be classified as to whether it tests memory or reasoning. The computing machine can easily summarize for each student whether he does well or poorly in each of these two categories. This kind of information would then be used by a teacher or a guidance counselor to help orient the education program to suit the students individual needs.

The most powerful test scoring and analysis program which I have seen uses an IBM 7094 computer to provide:

- -- raw score, score corrected for guessing and number of items ommitted for each individual;
- -- difficulty, proportion of subjects selecting each response and proportion of omits for each item response as well as identifying extremely easy (p. 95) and extremely difficult (p . 05) items;
- -- statistics on test mean, standard deviation, skewness, kurtosis, standard error of each, test of normality of the distribution, test reliability by Kuder-Richardson Formula 20, pearson correlation between total test score and a criterion score (if criterion score is used);
- -- analysis information on proportion passing, standard deviation, point biserial correlation with total test score (either raw or corrected), point biserial correlation with a criterion score (if present), reliability index, validity index (if there is a criterion score) and plot of item reliability and validity indices (if there is a criterion score);
- -- Tetrachoric inter-item correlations, where desired;
- -- Factor analysis of the inter-item correlation matrix, where desired, to obtain the largest principal components of the symmetric inter-item correlation matrix and perform an orthogonal rotation of these components to the varimax criterion. The largest characteristic roots are presented in order of magnitude and the associated characteristic vectors are tabled and plotted. The rotated vectors are also tabled and plotted; and
- -- Score cards for each individual containing subject identification, raw score, corrected score, number of items omitted and either pass-or-fail for each item, or original response for each item, or both.

With all the information which this program can provide, the student can be helped on an individual basis; the test can be improved; and even the teacher may find out what items are being learned well or poorly and, perhaps, helped to improve his or her teaching in specific areas.

No education system could possibly do this kind of test analysis if the calculations had to be done by hand. Therefore, the availability of computers as a calculation tool should make an appreciable contribution to education and guidance.

Another example of machine analysis of a test is the case involving the Minnesota Multiphasic Personality Inventory test. It is reported that it takes a person one and a half hours to do a job that can be done by a small IBM 1620 computer in 40 seconds. This is an increase in speed of 135 times.

Most tests are given days or weeks or even months after some of the subject matter has been covered. In the next section we shall see the possibility of putting testing much closer to the teaching process.

Computer-Assisted Instruction

Computer-assisted instruction, or CAI for short, is a considerable step past programmed instruction. The latter is a highly structured learning procedure presenting one "frame" or concept at a time. This is usually in book form, but it is also used in so called desk top, stand-alone "teaching machines". This is generally a linear procedure, with not too many branching possibilities. It allows a choice at each point of a limited number of specific answers.

Computer-assisted instruction is a much more powerful and flexible teaching system. It utilizes a computer with its logical processing capability and large storage facility. The student station or interface with the system is called a "terminal." The terminal may include a typewriter or other keyboard, audio facilities, slide or motion picture projectors, a television type of display tube or other devices.

Since a person using a typewriter terminal is relatively slow compared to a computer which can perform hundreds of thousands of operations each second, it is possible to have several terminals connected to the same computer. Therefore several (dozens at least) people can use the same computer system simultaneously. This type of use is sometimes called "time-sharing" or "remote computing."

The program for controlling computer-assisted instruction must be prepared ahead of time, by a capable person, and it must include provision for all possible responses by the user. It can present the student with whatever number of branching paths and remedial exercises which the author-teacher thinks are needed.

The system can provide for student-constructed responses instead of only choices from presented possibilities.

The system (machine and program) can also provide for partially correct responses. For example, if spelling were involved, the system could show which letters were correct by repeating them and leaving blank spaces for the others.

In one system, if a student is not sure of the answer, he can type the work, "help" and the system will actually present a hint or suggestion to help him. In another case, the typewriter used by the student can also act as a desk calculator. By typing "Descal," the entire power of the computer is made available to the student to perform arithmetic calculations.

IBM has prepared a general program called "Course writer" which enables an author preparing computer-assisted instruction material to use a computer without knowing all of the details of computer programming and operation. The person needs to know only a few simple instructions to code his "frames" for machine entry.

In concept at least, this program could allow a person to set up a machine - person dialog not only for a variety of general curriculum areas, but also for a student counselling interview, or for a medical doctor-patient interview.

This shows one of the advantages of the new computer technology. The same machine and program can often be used for many fields and applications other than the one for which it was first prepared. The computer manufacturers have libraries of programs - some general-purpose and some special-purpose--which are available along with the machines. In many cases, this reduces the time required for a machine user to put machine to work. It spreads program development costs over many locations, thus reducing the costs and effort for each use.

In addition to serving as an aid in the instruction process, the computer-assisted instruction system can also perform a testing function. Every student response is in essence the answer to a "test" question. Each student response can be analyzed, categorized and summarized for the teacher.

Since the computer-assisted instruction system can record time, student response time to each question can be measured. This can be related to the confidence a student has in his response. Thus a teacher can have this additional information about a student's knowledge.

The system can categorize all responses, as directed by the course author, and it can keep a running total of all category performance as desired. At any predetermined cut-off level on any characteristic, the system can signal that this special level has been reached and change the presentation to the student. If, for example, a student makes 5 wrong answers in any one lesson, he is told to stop, go back and study the appropriate material and then return at a later date. This is, of course, recorded as part of the total student performance for the instructor to analyze either now or at any later date.

With all of this information available, the educational institution is in excellent position to take action both to improve the education process for the student in terms of his individual needs and to improve the curriculum.

The above description is the kind of performance every good teacher would like to be able to provide. With the number of students a teacher has today, and with the amount of data to be processed, no teacher can possibly do all this by hand. Again, we see that the computer can act as a tool to assist a teacher in the education process.

It should be pointed out that the program for control of the computer-assisted instruction system can be duplicated in a matter of seconds and made available to other similar systems.

Each school, instead of having to develop its own system, can quickly copy the work which has already done. A school with relatively little capability can thus benefit from the work done by the most capable institutions. Likewise, all the institutions in a state might benefit from any cooperative effort.

The Use of Computers in Simulation Training Procedures

We know that engineers build models to simulate the performance of real things -- such as a model airplane in a wind tunnel simulating the performance of a real airplane. We also know that the Link Trainer is used to simulate the cockpit performance of a real airplane. The use of the Line Trainer is a good example of a simulation training procedure.

Mathematical models and computers are being used more and more to simulate real life situations. Such training procedures are sometimes called "games" for want of a better, short descriptive title. For example, "business games" exist for teaching executives something about running a business and making business decisions.

A mistake in real life might not be noticed for a year or two at which time a company might suffer an appreciable financial loss. In the case of simulation, a year may be compressed into an hour or two and a loss of many dollars is truly only a "paper" loss showing up on printed reports coming from a computer. Other "games" exist in such varied fields as banking, farm management, a manufacturing shop, a retail store purchasing operation and many others.

In order to help users adapt computers to simulation activities, some of the computer manufacturers have special-purpose programs useful in setting-up simulation procedures and keeping extensive records on the simulation performance. One such program is the IBM General-Purpose Simulation System III.

These simulation training procedures can be used in education in several ways. They can be used for training for a person for a real life situation. They can be used to give a person a quick glimpse of a kind of business to see if he would like that kind of work. They can also be used as a kind of aptitude test to see if a person has the ability needed for a particular kind of job.

This kind of information will be very helpful to guidance personnel in the future.

The Use of Computers in Educational Research

One college professor recently said that the availability of a modern computer had lengthened his productive working life from 30 to 300 years. This was a rather graphic way of saying that the computer had increased his productivity by 10 times because he no longer had to spend time on routine hand calculations. The computer enables a professional person to spend most of his time on professional activities. One estimate is that modern computers have increased calculation speeds by a million times over hand speeds while the cost of those calculations have decreased by one thousand times.

Much of the research in the field of guidance and vocational education involves the handling of a great deal of data, many variables and a great many calculations.

In the years past, when all of this work had to be done by hand, with only the aid of a slide rule or desk calculator, few people, if any, would start a project which they knew would take years of hand processing. Many worthwhile projects, therefore, were never started or were limited to a few variables or small samples.

Researchers can now tackle full-size problems. This should make a great deal of difference in correlating characteristics, performance, job requirements and a host of other variables.

One example of a tremendous study being undertaken is project Talent, which has its headquarters at the University of Pittsburgh. Their report, dated March 1965, gives an idea of the tremendous amount of data they have collected. Without the availability of computers, it would be impossible to make any meaning from all this data.

The project talent report states that they have available computer programs for correlation matrices, discriminant analysis, factor analysis, mahalanobis D^2, classification probabilities, stepwise regression, analysis of variance, covariance analysis, partial correlation, canonical correlation, multiple regression and multiple contingency analysis along with other standard programs of joint frequency distributions and means and standard deviations.

Computer manufacturers furnish quite a library of mathematical and scientific programs for computers so users can spend their time on problem solving rather than duplicating mathematical routines already written by others.

When we combine the data processing ability for printing, filing and simple data handling, for test scoring, and for high powered research calculations, we see that the whole approach to research will be quite different and far more productive in the future than it has ever been.

The Use of Computers in Teacher Education

The steam engine was replaced by the diesel locomotive in the United States in 12 years. The job of airplane flight engineer came and disappeared in 15 years. Some companies report that half of their employees now work at skills that were relatively non-existent five or ten years ago. In less than 15 years, at least 200,000 full-time jobs as programmers have appeared. Again as many people have had training in programming and do some part time work in this area.

More than 50 colleges have degree programs in the area of computer science. Many junior colleges, post-high schools, vocational and technical schools and private business schools have programs for training programmers and data processing machine operators. A good many teachers will be needed to teach subjects in the field of data processing. Still other teachers will have to teach the use of data processing equipment as a tool -- for instance, in a course on tests and measurements or statistics in the school of education.

It is considered that a college graduate who has not had some exposure to the subject of data processing today, has not been prepared by the college for his place in the working world. Similarly, a teacher or a guidance counselor who has not been given information about data processing in connection with his specific field of education, and something about data processing in general, has not been well prepared for his career. After all, data processing or information processing is becoming more and more a part of our working and living existence.

In addition, we need a whole new generation of teachers at the elementary grade level who are not afraid of mathematics. We also need teachers for adult education who know math and data processing to help in the retraining job which lies ahead of us.

Guidance counsellors also should know what data processing facilities can do to help them improve their jobs. They will have to insist that these facilities be available to assist them in doing the best possible job for the education of the individual student.

The Use of Computers in Job Placement

Few guidance offices are prepared to go through a thorough testing procedure for a student and then match those results against hundreds of job categories and opportunities -- since all of this data handling would usually be done by hand. Fortunately, the computer again shows itself to be a powerful tool for this kind of work.

There are programs in existence which do this job in short order. One such program at the University of Wisconsin matches graduating teacher applicants with job openings.

Another program called IRIS is used by IBM to match any job applicant against all known job opportunities within the company. This matching can be done each month as new job opportunities open up.

One school system is experimenting with a computer system for supplying substitute teachers. When a teacher calls in, his number is entered into a computer. The computer finds the characteristics of that teacher and scans the list of all needed teachers to see if there is any match. If a match is found, the location is reported by the computer, directly to the substitute, in voice response over the telephone from a pre-recorded vocabulary.

Again, we find that the computer as a tool can do a better job, explore more possibilities, give more individual attention, quicker and cheaper than can an office full of clerks.

The Use of Computers in State and National Employment Functions

The way our civilization is going, a person's job market is getting larger. It is also getting to be of state and national concern that people have jobs so they will not depend on relief and so that work can be performed to meet local, state and national requirements.

Each major city has one or more city or state operated employment offices and, of course, newspaper advertising of job opportunities.

If the job inventory in an office is small, however, it is quite likely that the job seeker will not find the job which he wants or the job for which he is qualified.

For this reason, several states, are studying the possibility of a statewide network connecting many cities. The system will have a central computer-controlled filing system. Each office, through some kind of a terminal, can request information on jobs to match certain qualifications. The terminal may be a typewriter or similar device.

It takes little imagination to widen this network to the entire United States. The computers and the telephone lines can handle the work. We don't have to look very far into the future to see this kind of information on job opportunities also available on an organized basis to guidance counsellors.

They will be able to get information on all current job opportunities for employment purposes. Also, the system will be able to summarize job opportunities and show trends in the kinds and locations of job skills, which will be needed in the future.

This kind of information will, in turn, help schools to change their educational programs so they will train people for jobs in the future rather than jobs which no longer exist.

Summary

The computer has been shown as a tool with many areas of application in the fields of education and guidance. It will free professional educators and scientists to do professional work and let our educational system educate each person as an individual. The latter can only be done through extensive computer use, in applications not even thought of today -- created by the ingenuity of man.

GUIDANCE WITH SPECIAL POPULATIONS IN VOCATIONAL-TECHNICAL EDUCATION

Moderator: Frank M. Fletcher

Disabled workers: William M. Eshelman

Unemployed older workers: Abraham Stahler

Minority groups: J. Edward Dickerson

Educationally disadvantaged youth: Roy N. Anderson

DISABLED WORKERS

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U. S. Department of Health, Education, and Welfare

I. Introduction

It is my privilege and pleasure to be able to participate in this panel, and to give you an overview of current activities in behalf of the disabled being conducted under the State-Federal program of vocational rehabilitation. Before relating these activities, let me briefly describe the public VR program so that you will have some measure of understanding and appreciation of its nature and scope of activity.

II. State and Federal Vocational Rehabilitation Program

The public program of vocational rehabilitation has been in existence for 45 years, but has made major strides in only the past 10 years in returning substantial numbers of disabled persons to gainful employment. This has been chiefly due to the impetus provided the program by P. L. 565 of 1954. In November 1965, this program achieved what should be another milestone in its development and capacity to provide even more services to greatly increased numbers of disabled persons. On November 8, President Johnson signed into law the Vocational Rehabilitation Amendments of 1965. Briefly, the provisions of this statute provide for a more favorable matching formula for States to obtain Federal funds for program expansion, special funds for innovative endeavors and program planning, new funds for the construction and staffing of rehabilitation facilities and training allowances for disabled persons while in a training status, and additional funds for the preparation of professional personnel associated with what is commonly referred to as members of the "rehabilitation treatment team."

The Vocational Rehabilitation Administration is a component of the U. S. Department of Health, Education, and Welfare. The program which it administers is of the grant-in-aid type and thus, the establishment of a partnership between State rehabilitation agencies, of which there are now 91, including 37 devoted to serving the blind only.

Through its program of Research and Demonstration grants, the VRA has broadened the flow of new ideas, methods, and patterns of service to facilitate the rehabilitation of disabled persons. During Fiscal Year 1966, this program has made $20.5 million available for project grants. To date, more than 900 projects have been approved embracing all types of disabilities and many of the problems encompassed in vocational rehabilitation. These investigations and demonstrations are carried on by State agencies, universities, and other non-profit institutions and agencies. This national research program embodies a complete cycle-basic research, demonstration of research, and application of these findings to rehabilitation problems throughout the country.

Another important component of the overall VRA operation is the Training Grant Program. Through this program, during Fiscal Year 1966, 24.8 million will be spent toward the following objectives: (1) to increase the supply of personnel in the professional fields involved in rehabilitation of disabled persons by helping training programs expand and by scholarship assistance to students; (2) to participate with professional associations and educational institutions in their efforts to improve the quality of professional preparation for service; (3) to facilitate better communication and working relationships among the professional fields engaged in serving disabled people; (4) to give personnel now serving disabled individuals a better understanding of rehabilitation philosophy and methods through short-terms courses or teaching materials and to provide opportunities for raising their level of knowledge and skill in rehabilitation of the handicapped; and (5) to give professional personnel in various fields an awareness of rehabilitation needs, concepts, and methods.

At the present time, to name a few, grants are being made in the fields of rehabilitation counseling, medicine, physical and occupational therapy, nursing, psychology, social work, and speech pathology and audiology.

Also, it is through the Training Grant Program that State vocational rehabilitation agencies may obtain funds for projects concerned with the training of their employees in order to assume a higher level of competence in serving the clients of the agency.

In 1960, VRA acquired international responsibilities by being given authority to operate a program of financial support for research in rehabilitation in other countries. To do this, use is made of foreign currencies derived from the sale of agricultural surpluses. Receipts of the sales in a particular country are used for the support of rehabilitation studies in that country. Projects are presently being carried on in Israel, India, Poland, and Egypt, to name a few.

In addition to stimulating foreign research projects, a program for the interchange of scientists and research personnel is administered under certain provisions of the International Health Act of 1960. There is a wealth of rehabilitation knowledge and resources to be tapped over the world. This program has proved extremely beneficial for the United States as well as the participating countries.

Combining the aspects of research and training in a relatively new venture, only four years old VRA is supporting 14 special Rehabilitation Research and Training Centers. The centers are equipped with the necessary resources for continuing comprehensive programs of clinical research and training to advance the rehabilitation of the disabled. There are ten medically oriented centers; two centers deal with mental retardation and two others are vocationally oriented centers. Spread across the nation, already these centers are providing services to significant numbers of disabled persons as well as demonstrating the value of drawing together top specialists from a variety of disciplines to work on common problems affecting the disabled.

It is through the State rehabilitation agencies, however, that rehabilitation services are made available to those individuals barred from achieving a socially meaningful and economically productive status in life. The full range of services includes:

Full evaluation, including medical diagnosis, to learn the nature and degree of disability and to help evaluate the individual's work capacities.

Counseling and guidance in achieving good vocational adjustment.

Medical, surgical, psychiatric, and hospital care and related therapy, to reduce or remove the disability.

Artificial limbs and other prosthetic and orthotic devices needed to increase work ability.

Training, including training for a vocation, pre-vocational and personal adjustment training and remedial education.

Service in comprehensive or specialized rehabilitation facilities, including sheltered workshops and adjustment centers.

Maintenance and transportation during rehabilitation.

Tools, equipment, and licenses for work on a job or in establishing a small business.

Placement in a job suited to the individual's highest physical and mental capacities and postplacement follow-up to see to it that the placement is satisfactory to the employee and the employer.

New services resulting from P. L. 333 of 1965:

Reader services for the blind.

Interpreter services for the deaf.

Management services for business enterprise programs.

Another significant provision of the new amendments will enable State vocational rehabilitation agencies to provide services to handicapped individuals to determine whether they can reasonably be expected to engage in gainful employment. Under previous law, State rehabilitation agencies were expected to determine, after diagnosis but before any rehabilitation services were provided, whether or not a handicapped person could become employable after rehabilitation services. For large number of handicapped persons, with severe disabilities or complicated problems or both, this is virtually impossible. As a result, many did not receive services.

Now a handicapped person can be provided services to a maximum of six months to evaluate his employment potential. In the case of mentally retarded individuals (and any others designated by the Secretary of Health, Education, and Welfare) such services can be provided to a maximum of 18 months.

In the fiscal year which ended, June 30, 1965, the State-Federal program of vocational rehabilitation placed in and/or returned to employment some 135,000 disabled Americans. Of this number, 20% were below the age of 20. While this figure might seem impressive, and we are happy with this achievement at this point in the program's development, there are great numbers of people who are not now being served who could be entitled to rehabilitation services. VRA estimates that there are over 3.5 million persons of working age who could be rehabilitated. Currently each year an additional 450,000 people join the group who are disabled and who could be restored to gainful activity through the provision of appropriate rehabilitation services. Thus, while considerable progress has been made--particularly in the last 10 years-- there is still much to be done to meet current and future needs.

In this regard, I would like to tell you something about what I consider to be a very significant part of our new legislative authority, and a part in which many of you might well participate. I refer specifically to the provision of grants for Statewide Comprehensive Planning.

The State-Federal program is now oriented to providing vocational rehabilitation services to all disabled persons who need and can profit from rehabilitation by 1975. There is an urgent need to close the gap between the present figure of 135,000 persons who are now being rehabilitated and this goal.

Many new resources, provided by Federal, State, private, and voluntary actions, have become available in recent years and months. These resources can be utilized most effectively through the fullest interaction among all public and voluntary agencies concerned with the handicapped. In order to assist States in studying, planning, and developing a comprehensive vocational rehabilitation program, Congress has given VRA the authority to administer grants for this purpose. Undoubtedly, many of you and your agencies and universities will be called upon in the near future to participate in this planning venture. I believe that you will agree with me in that it is only through a consortium of agencies in which specific responsibilities are assumed and where services are pooled that the rehabilitation needs of all the disabled can be met.

III. Rehabilitation of Disabled Youth

While my assignment is to discuss the rehabilitation of disabled workers in general, I would like to describe some of the special activities of the vocational rehabilitation program in working with disabled youth. As mentioned earlier, some 20% of the 135,000 rehabilitants in FY 1965 were under the age of 20. Forty percent of all rehabilitants had never been to high school.

A. VRA--Office of Education Relationship

At the national level, both VRA and the U. S. Office of Education recognize the fact that the two agencies have a joint responsibility in seeing that handicapped children and youth are provided necessary rehabilitation services. This cooperative relationship has been strengthened by legislative programs affecting both agencies. At the present time we are conferring with staff in the Office of Education for the purpose of establishing written guidelines and procedures to effect an extension of Special Education--Vocational Rehabilitation programs at the State and local levels. A special effort is being made to encourage State and local Boards of Education and the State Divisions of Vocational Rehabilitation to incorporate joint programming as a regular and on-going policy, and to extend these services to all handicapped groups rather than to a single disability.

B. Mental Retardation

Dramatic advances have been made in the rehabilitation of the mentally retarded. Strong emphasis has been placed on the development of sound patterns for cooperative programs conducted jointly by State special education divisions and vocational rehabilitation agencies. Recent information reveals that cooperative arrangements are underway in some 39 States involving some 287 individual school districts. Many of these projects follow VRA established prototypes. In one type of project, there is an attempt to structure the curriculum so that it is work oriented with the other significant feature that a rehabilitation counselor works side-by-side with special education teacher in preparing the student for community work placement. A more elaborately designed prototype calls for the establishment of a rehabilitation evaluation unit within the special education program. Contributors to the functioning of this unit include: special education teacher, the vocational rehabilitation counselor, school psychologist, work evaluator, school social worker, and other members of the inter-disciplinary rehabilitation team.

The major feature of such projects is the introduction of work training content and counseling services in school settings to facilitate the transition of the retarded youth from school to work.

VRA has also supported for some years a successful, ground breaking series of occupational training centers for the retarded, serving mainly youth. The purpose of these centers include: pre-vocational evaluation, personal-adjustment training, and job training.

C. Selective Service Rejectees

Approximately 25% of the young men called for examinations for military service are screened-out for medical reasons. Through a cooperative VRA-U.S. Public Health Service program these medical rejectees are interviewed at the Armed Forces Examining Station for interest in and referral to appropriate local agencies which offer counseling, training, and medical services.

A recent report (November 1965) shows that 50 States, the District of Columbia, and Puerto Rico have signed contracts to initiate this program, with 43 presently operating, including 13 States where the Governor has designated the State vocational rehabilitation agency to head the program. Rejectees are being interviewed in 54 of the 70 AFES. Many of these young men have found new hope for a productive future through vocational and technical training. A companion program carried on by State Rehabilitation agencies involves on-going casefinding at the local draft board. Here, persons with known disabilities are automatically referred to the State rehabilitation agency.

D. Public Offender

It has been estimated that crime in the Nation today costs us $27 billion. Coincident with the heightened national awareness of this problem has been an upsurge of activity in correctional rehabilitation on the part of State vocational rehabilitation agencies.

While in the past, many rehabilitation agencies have obtained offenders as clients through usual referral sources, i.e., State Employment Service, physicians, and welfare agencies, there is considerable movement currently toward establishing working relationships with State and Federal correctional institutions and parole and probation agencies. Since 1962, VRA has supported 10 research and demonstration projects designed to apply vocational rehabilitation concepts and methods to disabled inmates in State correctional institutions. Oklahoma was the first State to provide intensive service to public offenders on a project basis.

While the emphasis in these projects has been primarily on the adult offender, one of the Children's Village, Dobbs Ferry, New York, provides comprehensive rehabilitation services for emotionally disturbed delinquent adolescents.

Several State rehabilitation agencies are presently conducting special programs which provide comprehensive rehabilitation services to offenders in the younger age groups. For example, working in cooperation with the Family Court of Rhode Island, the State agency participates in the team operation which evaluates problems of children who appear before the court and ultimately provides restorative services leading to employment. In Georgia, the Division of Vocational Rehabilitation in 1963 began a large-scale program of service to young offenders incarcerated at the Georgia Industrial Institute. This program offers vocational rehabilitation services and encompasses such functions as screening, vocational appraisal, pre-vocational evaluation, physical restoration, pre-vocational training, specific vocational training, counseling and guidance, job placement, and follow-up.

E. Other Cooperative Rehabilitation Endeavors

VRA works closely with the Department of Labor and the Office of Economic Opportunity to help meet the needs of the disabled through programs administered by these agencies. Through these efforts, disabled individuals are able to take advantage of vocational and technical training opportunities under the Manpower Development and Training Act, the Neighborhood Youth Corps, and the Job Corps, and programs administered by the Bureau of Apprenticeship and Training. State rehabilitation agencies are providing an invaluable service in a recently approved BAT project submitted by the Association of Industrial Launderers. This project is designed to place in employment 1,000 mentally retarded persons over an 18 month period. The industry has identified 11 job titles for which 10 weeks of on-the-job training will be provided. State rehabilitation agencies will evaluate and certify all prospective trainees as being work-ready. If the project is successful, other employers such as home industries and auxiliary service industries are expected to follow with similar proposals.

In a closely related BAT project, the National Association for Retarded Children will find jobs in large retail chain-stores for 1,000 retarded children. Here again, the evaluation of the job-readiness of the individual will be made and certified by the State rehabilitation agency.

A program within the Federal government to employ the retarded was initiated two years ago. This program is sponsored by the Civil Service Commission in cooperation with VRA. Up to the present time, approximately 850 persons have been placed, following an individualized appraisal of job-readiness by the State vocational rehabilitation agency. A recent survey reveals that these persons are performing satisfactorily in the following positions: messenger, clerk, typist, janitor, key punch operator, laboratory worker, grounds maintenance worker, and mail clerk.

This brief discussion and examples point out the current trend and progress which agencies and organizations, whether in the health field, rehabilitation field, correctional field, or the field of education, are making on all fronts to join together in meeting the concommitent needs of disabled, impoverished and troubled persons in order to help them achieve a measure of self-worth and to become a contributor rather than a consumer in our work oriented and competitive society.

F. The Key Person in the Rehabilitation of the Disabled

The key staff member in the rehabilitation of the disabled person is the counselor. The heart of the rehabilitation process is counseling. From the initial interview--and on through the steps needed to gain a full picture of the person's aptitudes, interests, ability, physical and mental state, the providing of restorative services, through placement and follow-up in the first weeks of employment to appraise adjustment on the job--the counselor guides the individual through the various stages to successful rehabilitation.

There is agreement among rehabilitation administrators, practitioners and university counselor educators that graduate preparation is necessary for the complex tasks performed by the vocational rehabilitation counselor. Presently, there are 46 universities and colleges receiving VRA funds to support graduate programs in rehabilitation counseling. These programs will provide approximately 500 qualified counselors next year to a field which could use more than 1,000 per year. Of this number, it is estimated that about 40% will enter State rehabilitation agency employment, 35% will take other jobs in the field of rehabilitation, while 9% will pursue doctoral level training. Never before has so much attention been given to the employment of qualified personnel to perform counseling functions. The critical shortage of trained manpower has generated much activity during the past two years in identifying new approaches to training as well as developing new staffing patterns based on the differential use of counseling personnel. Such usage has included the functional separation of the rehabilitation process as well as identification of tasks within the counseling function which could be done by semi-professional personnel. There is much work yet to be done in this area.

VI. Suggestions for Action and Research

The success of a meeting of this type can be measured by the accumulative actions taken by participants when they return to "homebase." May I urge you to get in touch with your State vocational rehabilitation agency to explore mutual avenues of approach whereby the resources you represent, together with those of the State vocational rehabilitation program can be more efficiently and effectively utilized to reach and better serve those disabled persons in need of assistance to live useful and productive lives.

To those of you in research, I believe that there are new dimensions waiting to be charted in the area of programmed instruction for the retarded. Only a beginning has been made. We need to explore further how much can be done in teaching the retarded in school and on the job with programmed materials. For example, at Abilities Incorporated, Albertson, New York, the retarded are doing a complex soldering job on a piece of electronic equipment with the aid of a programmed set of slides accompanied by voice instruction. At the George Mason Occupational Training Center in Arlington, Virginia, the retarded are being taught tool recognition by programmed instruction. The outlines of various tools are painted on a board and the tools subsequently placed over the appropriate outline. Voice instruction via a recording is given the trainee and requests that he pick a particular tool off the board, and lay it aside. After all the tools are removed from the board, the trainee replaces each tool per the instruction of the voice recording. This process is repeated as often as needed by the trainee.

Along with this kind of research, we need to explore new types of jobs for all the disabled. We need to determine if we have become too sterotyped in those jobs for which we are training individuals with certain disabilities.

We need to interest research personnel in the problems of egress from vocational evaluation and training situations. Too many of our rehabilitation workshops are filling up with severely disabled people because of the lack of egress into the labor market. Once in the labor market, there is the problem of job-retention. We need more information on why certain disability groups find it more difficult to remain on the job than to find a job.

The area of improving rehabilitation counselor practices holds challenge for research. The day-to-day decisions made by the counselor determine, to a large extent, how the funds of the agency are to be spent; what services will be purchased or furnished to the disabled client. There is research work to be done in: (a) improvement of the tools used by the counselor, such as predictive or assessment instruments and techniques, and occupational information collection--dissemination methods; (b) counseling techniques, such as group therapy, or counseling problems that can be attacked through studies of attitudes, interest, or motivation; (c) the counselor's role in the rehabilitation process; and (d) the selection, training, and professional development of counselors.

An exceedingly important area to be researched is the problem of developing effective techniques for reaching the uneducated, delinquent adolescent, or young adult from indigent families through the counseling process.

There is a need to direct research toward the rehabilitation problems of those afflicted with heart disease, cancer, and stroke. For example, we need to find out if the youthful cardiac patient can be provided with a bridge from school to work with minimal interference from the disability. This might be accomplished through the development of graded job levels and by providing such work experiences to the person while still in school. Concepts previously developed to provide this transitional service to the mentally retarded might be able to be restructured to meet the needs of heart disease victims.

Conculsion

I have attempted in a very superficial way to describe the State-Federal program of vocational rehabilitation, pointing out the services it offers and describing some of its cooperative endeavors. I have tried to illustrate the place of guidance, counseling and training in assisting the disabled person in achieving gainful employment and have pointed out some areas for research consideration. In closing, I would like to point out that the road to improve services to the disabled cannot be traveled alone. There is a continuing need for agencies and organizations to work together and for administrators, educators, researchers, and practitioners to apply skills and knowledge in an imaginative and resourceful manner.

GUIDANCE WITH SPECIAL-POPULATIONS IN VOCATIONAL AND TECHNICAL EDUCATION
GUIDANCE WITH OLDER WORKERS

Abraham Stahler
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While listening to Bill Eshelman's talk I was reminded of how much we who are concerned with the employment problems of the various special worker groups owe to the vocational rehabilitation program. For, to my mind, they have been the real innovators of many if not most of the techniques and methods, instruments and procedures for individuals presenting special employment problems. I think we all owe a great deal of gratitude to the innovators--the imaginative people--who have been in the vocational rehabilitation program.

I was very pleased to note that those who planned this Seminar saw fit to include this particular panel on special population groups. We are now in an era, as must have been emphasized during the past day or two, of unusual and continuing prosperity. There is a feeling among some that anyone who wants a job can get one and that if he is out of work it is simply because he is too lazy to work. Well, we know that this is not true. For, the very groups that we are discussing here today are precisely the ones who are still having an extremely difficult time to obtain employment and it surely is not out of laziness. Not the least of this group, of course, is the older worker. And I am not referring simply to those in their 60's or 70's--but rather primarily those in their 40's and 50's.

The Problem of Unemployment

The older worker problem is essentially a problem of reemployment for middle-aged workers who lose their jobs. While he is employed, the older worker generally does have the benefit of seniority, of longevity on the job, of experience and so on. But once he loses his job, he usually has a much more difficult time in getting into another one than many others in the labor force. For example, older male workers--those 45 to 64 years of age--are out of work on an average of 19 weeks once they become unemployed. In contrast younger men, those under 45, are out of work an average of 13 weeks. The older worker is thus unemployed 50% longer on the average than the younger worker once he loses his job.

The job problems of older workers are an area of serious importance to counselors and to others who are concerned with assisting individuals in preparing for and obtaining suitable employment. For, the older worker plays an extremely significant part in our labor force. Four out of every 10 men and women in our work force are 45 years of age and older and during 1965 this total reached about 30,000,000. Their unemployment rate is not quite as high as that of other groups, because of seniority and other reasons, but an average of nearly 1,000,000 job seekers 45 and over were unemployed during the past year. For many it becomes a problem of chronic joblessness. For example, there were about 300,000 older workers unemployed during the past year for 15 weeks or more--a length of time considered long-term employment--and over 150,000 workers 45 and over were unemployed six months or longer, despite unusually intensive efforts to seek reemployment.

They are caught in a period where they are considered too young to retire and yet too old to get jobs. Unless vocational retraining, realistic counseling and other effective assistance in obtaining reemployment is provided, they are often confronted with a depletion of a lifetime of savings, a swift descent into destitution, and very often destruction of morale. Since most of them are heads of families it doesn't require much imagination to understand the great impact on their financial resources, their prestige and their self-esteem when they are confronted with a virtual hopelessness in resuming their lot as the major bread winner of the family.

Challenge to Vocational Educators and Counselors

The restoration of the unemployed older worker to the status of an employed member of society is indeed a problem and a challenge to vocational educators and counselors. The Department of Labor has been concerned with this problem over the past several years. We have made a number of studies in the past 10 years of employment problems, and of counseling and of other job-related needs, of the older worker. I would like to share with you some of the experiences we have had, in the hope that they can be of some assistance to you as you attack these problems--more and more ardently, I hope, in the months and years ahead.

We have found that at least 25% of job seekers 45 years of age and over who are unemployed are in serious need of counseling service. It may well be that a much higher percentage of those who are considering training and retraining will require vocational counseling since many of the others might still go back to their former jobs. Due to limited staff resources in the public employment service only about 7% of workers 45 and over receive employment counseling service. There is a tremendous need for expanded counseling service obviously, not only in the public employment service but also in vocational and technical education for the unemployed adult.

Nature of Counseling Problems

The older worker presents a wide variety of special problems with which the counselor will often need to assist. For one thing, although there are tremendous changes taking place in the nature of jobs, workers who have been employed for 20 or 30 years in the same type of work, as many older workers have, find it extremely difficult to accept the fact that they must change, often to an entirely different kind of job. They feel uncomfortable, they feel insecure, and they actually feel confident that somehow they will get back into the kind of work that they had even though opportunities for such work may have become rare or no longer exist in the area. Hence, they need to be motivated to accept what is often a radical change in a job for which they need to be trained despite their mature years. They need also to be helped to understand that even a job for which they are to be trained is no longer something that they can expect to do the rest of their lives--that it is no longer generally true that once you are prepared for a job you are likely to stick in it for the rest of your work days. Actually, it has been estimated that one can expect at least six job changes in the average working life of an adult.

In addition to the problem of reluctance to change one's occupation, the counselor will need to be concerned with a frequent reluctance on their part to accept training, despite the fact that it may be badly needed. Very often the older worker feels that he has been too long out of the classroom, that he is too old to go back to school, and that he could never learn at his age a new type of work.

Another problem is the reluctance a great many have to take tests and undergo other appraisal measures. The older worker is usually afraid that he will not do too well. He is afraid of failure. He is afraid of the unknown. Unlike younger people who are accustomed to taking tests, he is unfamiliar with the test situation. Moreover, he often cannot see the relation between taking tests and what he really wants, which is to obtain reemployment. Moreover, many lack language facility to perhaps a greater extent than those of most other groups, have often slower motor speed, and thus find it difficult to do well in tests, particularly power tests. And so, there is a real problem frequently in attempting to appraise and evaluate the aptitudes, interests, personality traits and other factors of assistance in determining the type of new vocation they may wish to prepare for.

There is also a feeling of defeatism on the part of many, of lack of confidence, or low morale--due often to repeated rejection by employers because of their age or educational level, or for other reasons. This affects not only their confidence in learning a new vocation but also in presenting their new qualifications to a prospective employer. Many of them need a great deal of assistance in helping them to overcome this feeling.

There are many other problems that a counselor must be concerned with in working with the older worker. He must be alert to the fact that the older worker is often less agile than others, that his vison and hearing are often not as acute as it was, that he often has less finger and manual dexterity than he once did, that he often has less eye-hand coordination. His educational level is generally less than that of younger people since education was not stressed as much when he was young as it has been in more recent years. Hence, the types of work that he can successfully learn to perform is often somewhat more limited than for younger people. Moreover, he often lacks an insight into his own present limitations and finds it difficult to accept them. The counselor must be extremely careful, as well as skilled, in assisting him to understand his current limitations and accept them.

Once the older worker has accepted and has gone through the training process, he meets more than many other people resistance from employers because of his age, his educational level or his physical abilities. Moreover, he often does not know how to go about a job search since he hasn't had to look for a job in a good many years. He does not know how to present his qualifications effectively to an employer.

Those, then, are some of the problems, some of the challenges that counselors who work with older people are confronted with virtually every day of their working life. We need to develop, adapt and apply techniques, instruments and information that are different in many ways from those used with younger persons in order to deal effectively with these problems.

Experiences in Dealing with Counseling Problems

Actually, there has been quite a body of experiences building up for use in counseling with older workers. The employment service counselors, for example, have been dealing with these problems for a dozen years or more. Considerable experience has also been had by counselors in vocational rehabilitation agencies, the Veterans Administration, and some school circles, and in a number of private non-profit agencies serving older workers.

We have found that we need to spend more time than with most others in counseling interviews with older persons. Because of the great impact of seeking new employment, often for the first time in many years, they frequently have to talk out their problems at greater lengths than many others with whom we counsel. We need to keep the use of power tests with older workers to a minimum--and to use non-verbal instruments to a greater extent in the appraisal process. We need to dwell much more on past work experience and their reactions to it for clues to potenials and interests relating to new occupations. We find that we need to explore more carefully the possible transferability of demonstrated skills and abilities to new occupational outlets because of the fear so many have to change and the feeling of comfort they have with known types of work. The effective counselor will often try to build on skills and knowledges the older worker has already acquired.

We have found group counseling sessions with older workers to be a useful adjunct to individual counseling. We have found them especially useful with older workers having problems of unrealistic job choice, of negative attitudes toward job change, and of emotional reactions to their situation, and with those who particularly need a great deal of motivation to take training and to seek new employment. They are also of considerable assistance in learning how to go about seeking employment and presenting qualifications effectively to employers. The group counseling session helps them, too, to identify themselves with others with similar problems, finding as they do that they are not alone with such problems.

We find that work tryouts have been extremely useful devices in determining a suitable occupation to train for.

There is great need also for realistic occupational information in counseling with older workers. I understand that this point has been dealt with quite a bit at this session, so I need not elaborate further. At any rate, the State Employment Service offices, I would think, should be your best single source for such information. I would suggest to those doing counseling not only with older workers, but with any group, that close operating relations be developed with employment service local offices. They can be of considerable help in providing up-to-date and realistic occupational and job market information which is indispendable for effective counseling.

Preliminary Findings from Experimental and Demonstration Projects

There is another major area of information that I would like to share with you, based on experiences of the Department of Labor. About two years ago, the Department's Office of Manpower, Automation and Training executed a contract with the National Council on Aging to stimulate and assist communities in developing Experimental and Demonstration projects involving workers age 50 and over. The NCOA is a volunteer, non-profit agency with a membership of leaders from business, labor, social welfare, religion, education and health. The objective of this program has been to work through community organizations in developing E and D projects designed to discover and test methods for preparing workers age 50 and over for reemployment and helping them find suitable jobs. Seven cities, diverse in geographical location and economic makeup, have been selected to develop projects. Each project has a different emphasis. One project, for example, emphasizes the development and testing of techniques for assisting workers faced with mass layoff to prepare for and obtain suitable employment. Another is primarily concerned with developing and trying new techniques for motivating older workers to enter training, experimenting with non-verbal comprehension and interest measures, and providing psychological support until occupational adjustment is attained. There are a number of other individual projects besides those stimulated by NCOA which are similarly trying out better methods and techniques for assisting older workers. In all these projects counseling has been playing a major role.

The projects for the most part are still in operation, but a number of preliminary findings have emerged thus far. A brief listing of these may be of some value to those counseling with older workers. In several projects--and this you have been hearing a great deal of in anti-poverty projects--the use of trained non-professional persons, who know the unemployed workers and have shared their problems, as an aid to the counselor has been found to be helpful, especially in motivating these people to accept counseling and other services and in helping to sustain morale during the period of service.

Group counseling has been found to be highly useful, as has been the experience in many employment service offices. It has been particularly helpful in dealing with attitudes and work habits.

There has been a surprising frequency and great disparity of differences between educational achievement and educational level of clients with apparently equal educational, employment and cultural backgrounds. For example, two females of the same race and age, each with an eighth grade education who came in at the same time and were given the "Wide-Range Achievement Test" scored 4.3 and 10.3 grade levels, respectively, in word recognition and 2.9 and 9.0 grade levels in arithmetic. Since such disparity has a great bearing on their ability to learn new vocations it was decided to place more emphasis on measuring educational achievement and less on accepting without question the educational level attained in school.

In another project it was reported that special instruments and techniques were needed that would fit in more adequately with the older person's environment and job situation than most of the typical appraisal methods used on younger people. As a result, testing instruments were modified to reflect the culture and experience of the group tested rather than relying on instruments standardized on general population groups. One of the instruments developed was a Picture Interest Test. An artist prepared a set of 30 drawings of a man performing 30 different kinds of jobs. The drawings are paired in various combinations and the older worker is asked to make his selection of the type of job that he would prefer if he had the necessary training and experience. The counselor inquires as to the reasons for his preference and asks for comments on his likes and dislikes. Much insight into interest patterns was gained through interpretation of the man's comments and observations. The essential value of this approach seems to be in its ability to elicit differential expression of interest through the use of simple, familiar, non-verbal materials.

Another instrument developed was a "Following Directions Test" which consists of 20 graded instructions of increasing difficulty. The test was found helpful in trying to judge how the individual can be expected to function in a new learning and job situation.

Further Research and Demonstration Needed

Those are but a few examples of the types of innovation, experimentation and demonstration that are used and are needed to provide the instruments and techniques for counseling effectively with older workers. There is an obvious need for more and better instruments and methods for use with older workers to assess particularly interests, potentials and abilities. There is also a need to know more about not only attitudes but the factors behind attitudes of older workers toward training and mobility. There is a need for more effective techniques to deal with the shocks and fears, the resistances and suspicions that many older workers have on changing jobs and taking tests and entering training. We need to know more about the process of change occurring in individuals during middle age and older years--and the effect of these chances on their interests and qualifications for employment. We need to know more about training methods and procedures that are most effective for older persons as distinguished from those found effective for younger persons. We need to know more about occupational trends not only nationally but in our own localities--about the true educational and skill requirements of occupations--about employer's specifications--and certainly about what skills and jobs are on the increase and which are on the decline.

Conclusion

But we cannot wait until all these are developed and successfully demonstrated to assist us with the counseling of older workers. For the problem of counseling older workers is here and now. They are still a far too largely neglected segment of our society. We do know that most of the existing principles, methods, techniques and instruments can be adapted and applied with a bit of understanding and imagination. And so, the counseling, training, and placement of older workers can and should go on to an ever-increasing degree--while at the same time basic and applied research is carried out to find solutions to the many problems we are confronted with in serving older workers and to develop more and better ways for providing the services they need.

GUIDANCE WITH MINORITY GROUPS IN VOCATIONAL-TECHNICAL EDUCATION

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INTRODUCTION

President Lyndon B. Johnson has referred to the Sixties as the "revolution decade." The high rates at which changes, in all phases of our culture, are taking place justify this classification. At the half-way mark, we find outselves confronted with social problems of tremendous scope and import.

It is no exaggeration to state that the people of the United States are participants in the highest civilization of all ages. In fact, American technological and scientific know-how has given us a most wonderful civilization. We are living in an age that is simultaneously most satisfying and most disappointing. In this sense it is ambivalent in nature. The decade of the sizzling Sixties is anything but logical. It is riding the crest of national gross product, and expanding job opportunities, and at the same time poverty and unemployment is in abundant supply.

Picture, if you will, a man who died thirty-five years ago returning to this earth, a full adult with his faculties of the past intact. How would he re-act to the news that the American economy, while currently realizing a national gross product, estimated to be over 670 billion dollars is also experiencing unemployment in the excess of four million? I am sure that he would find it most perplexing.

Here, he would reason, is an economy with a national gross product over six times greater than the 104 billion dollars national gross product of 1929,[1] yet, unemployment per thousand is more than 27 times greater.[2]

A relationship that shows an increasing growth in job opportunities on the one hand, and in unemployment on the other is anything but consistant. I am sure that our visitor from the nether world would find this most puzzling. In all probability, he would wonder, if excessive unemployment is a concomitant of industrial progress.

The well-being of a large segment of our population has deteriorated, as the result of the tremendous rates at which our American economy has developed. This is due, in part, to the fact that the kinds of jobs that industry will need workers for are changing. Furthermore, the job-seeker will need more education and training, if he is to experience success in his quest for employment.

The minority groups job-seekers, because of their lower educational level, limited work experience, and job discrimination, are the greatest sufferers of the imbalance condition of our social order. Consequently, the problem of formulating a guidance and counseling program, to assist them in adjusting to the rapidly changing world of work, is no easy task. For the simple reason, it must relate effectively with modern trends that are basic to the emerging industrial economy.

From the point of view of job attainment, a minority job-seeker is anyone who is denied employment, on the basis of qualifications that are irrelevant to success in the performance of the job. In other words, a minority is anyone who is denied employment for reasons of color, creed, religion or national origin. However, the discussion in this paper will be confined to non-white minorities.

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[1] Statistical abstract of U. S. 1956, p. 324.

[2] There is less than 1 million persons unemployed in 1929. Moffat, et. al., Economics, Principles and Problems, p.910.

In 1960 the non-white population of the United States totaled 20,491,443[3] persons or about 11.4 per cent of the total population. They are listed as Indian, Japanese, Chinese, Filipino, Negro and others. Since the Negro makes up about 93 per cent of the non-white population, he is America's minority group problem.

In spite of the fact that other minorities are subject to the evils of job discrimination, most concern shown about the problem, is focused on the Negro. It is my opinion that the basic elements of the problem - lack of education and training, poor work habits, discrimination, etc. - are fundamentally the same for all classes of minorities. It is admitted that there are differences, but only in degree. Consequently, a guidance program, designed to help the Negro to resolve his occupational problem, would serve equally well other minorities.

POPULATION

The population of the United States in 1960 numbered 179,323,175 persons. This represents an increase of 18½ per cent over the previous decade. The growth during the 1950's has been referred to as "dramatic in nature," and is expected to continue during the 1960's. The phrase: "population explosion" was and is on the lips of everyone.

The U. S. Department of Labor issued, in 1961, a pamphlet entitled, "Manpower Challenge of the 1960's". One of the several forecast, expressed in the pamphlet, had to do with the rapid growth in population during the Sixties. It was predicted the population in the United States would increase, during the decade, from a 180 million to 208 million.

We have just started the second half of the decade. The experts already are fairly certain that the U. S. Department of Labor's population growth prediction, for the Sixties, is an understatement.

In October, 1965, the Equitable Life Insurance Company, estimated the current population of the United States to be 195,372,002, and that it is expected to reach 230 million by 1970.[4] This 28 per cent increase in population by the end of the decade, exceeds that predicted by the U. S. Department of Labor by 11 per cent. One must go back some 80 years, to the decade of the 1880's, to find a ten-year period, in which the population growth exceeds that predicted for the 1960's.

Labor Force. The increase in the total number of workers during the Sixties will exceed that of any ten-year period in history. The labor force, by 1970, will number better than 87 million workers.

Forty-six per cent of the labor force growth, according to the U. S. Department of Labor,[5] will consist of young workers. In fact, "26 million new young workers will enter the labor force during the 1960's.[6]

By 1970 there will be six million more women in the labor force than there were at the beginning of the decade. The 30 million women workers, in the labor force, means that one of every three workers in 1970, will be a woman.

Older workers will account for 20 per cent of the labor force growth of the Sixties. Two of every five workers, in 1970, will be an older worker.

Our Human Resources. The United States' human resources are in abundant supply. Their development is a must if we are to realize the great potentials made possible by the scientific and technical know-how of this nation. Therefore, each and every segment of our social order must contribute to the task of making the best use of our manpower potential.

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[3] U. S. Census of Population, Vol. 1, Part 1, 1960.

[4] "Open Market Opportunities," James F. Oates, Jr., Pub'd Tuesday, December, 1965.

[5] Manpower Challenge of the 1960, p. 6.

[6] Ibid.

The Occupational and Industrial Structure During the 1960's

Because of our scientific and technological know-how, America is riding the crest of material progress. It is causing every component of our industrial economy to under-go changes of a radical nature. This is noticeable in the structural changes that are taking place in industry, in the labor force composition and in the kinds of occupations industry will have to offer job-seekers. This means, among other things, more job opportunities, greater productivity and a higher standard of living.

Changes in the Industrial Make-up. One of the ironies, of the rapid growth of our economy, is the fact that proportionately fewer workers will be used to produce the goods and services, that will be consumed in the years ahead.

Of the workers used in our productive efforts, during the Sixties, and the years ahead, better than 56 per cent of them will be employed in the service industries. The construction industry is the only one, of the production industries, that is expected to keep pace with the service industries in providing job opportunities in the decade of the '60's. There is, as you know, an actual decline in job opportunities in the agriculture industry. Of the service industries, only in transportation and public utilities will the growth rate, in job opportunities, be slower than it was at the beginning of the decade.

Kinds of Jobs. For the first time, in the history of this Nation, there are more job opportunities in the service industries than in the productive industries.

In the '60's the demand for engineers, scientists, technicians, managerial, sales and clerical workers will increase faster than will the demand for skilled, semi-skilled, and service workers. There will be no measurable change in the number of unskilled workers employed in the '60's, in contrast with the number employed in the '50's. The percent of employment, of agricultural workers, will decline in relation to such employment in the Fifties.

The changes in employment emphasis placed on the several occupational groups, are the consequences of the application of American ingenuity to the development of a better way of life. American technological know-how has given us a predominantly industrial economy; it has led to the placing of greater emphasis on research; business organization, because of it, has grown larger and more complex; it has caused greater emphasis to be placed on record keeping. One result of these developments is the growing need for more education and medical services.

EDUCATION

A high quality of education and training are prime requisites for the worker, who hopes to compete successfully in the current job market. More and more employers will be looking for workers who have, at least, a high school diploma. The young worker, who hopes to have a successful job-career, must prepare himself for a rapidly changing and more complex industrial world. Competition for jobs will be much keener.

In spite of the fact, that a sound formal education is basic to job success in our current world of work, we have been told[7] that approximately three of every ten young workers entering the job-market, during the '60's, will not finish high school. In fact, three of every ten of those, not finishing high school, will not complete the eighth grade.

In the past two decades great strides have been made in closing the educational gap between non-white and white persons in this Country.[8] In spite of this, non-whites are greatly handicapped in their quest for employment. At the beginning of the '60's the median years of school completed for white persons 25 to 29 years of age was 12.3 for both male and female. For non-whites of the same age group the medians for male and female were 9.4 and 10.3 respectively.[9]

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[7] Manpower Challenge of the '60's, p. 16.

[8] See "Special Labor Force Report No. 33, p. 9.

[9] See "Notes on the Economic Situation of Negroes in U. S." U. S. Dept. of Labor, Bureau of Labor Statistics, p. 42.

The quality of the educational attainment of the population is the important thing; however, the mere fact that the median years of education completed total 12 or more means little, if it is inadequate with regards to the needs and demands of industry. The educator must view carefully his role to determine if his service to potential workers in today's job market is effective.

Vocational-Technical Guidance with Minority Groups in a Changing World of Work

It is no exaggeration to say that all job opportunities are open to non-white job-seekers today. The industrial climate is becoming more favorable, due to special effort made by governments, especially the Federal government, to place non-whites in the better jobs. It is also noticeable, that private employers, more and more, are voluntarily moving in this direction. I realize that there still is much, in fact too much, job discrimination. Non-white workers experience disadvantages of large proportions, when compared with white workers.[10] They are concentrated in the less skilled and menial jobs, and are subject to more unemployment than are white workers.

In spite of this, progress in every direction has become so encouraging that no vocational counselor should hesitate to steer non-whites in any and all career directions. His only concern should be with the question, of whether the factors involved support the choice as being the right one.

This, however, has not always been the case. Twenty years ago, the phrase "preparing for a professional career" meant, to the average non-white, the studying of medicine, teaching, law and theology. If he were inclined toward the skills, his choice would come from the construction industry. These are known as the traditional career occupations for non-whites. And there was a tendency for vocational guidance counselors to confine his choice to these categories. If a non-white were so bold as to set his sight on a career, in banking, management, engineering, etc., he would soon learn, from his counselor, that there were no opportunities for him in these fields.

In the 1940's approximately eighty-two per cent of the gainfully employed non-whites functioned in jobs that were to be found in the unskilled, service and farm workers occupational groups. Today, slightly better than 57 per cent of the gainfully employed non-whites are functioning in these occupational groups. In contrast, 31 per cent of the gainfully employed whites, in 1940, were working in unskilled, service and farm workers occupational groups. Currently, the percentage, of gainfully employed whites, that are working in the aforementioned occupational groups is twenty-three. In other words, in 1940, 8 of every 10 gainfully employed non-white workers were employed in the unskilled, farm or personal service occupations, as compared to 3 of every 10 white workers. Twenty years later, the respective employment ratios, of these groups, in the aforementioned occupations are 6 of every 10 and 2 of every 10.

It may be pointed out that currently, non-white workers, for the most part, are prepared to function only in job categories that are either obsolete, obsolescent or in which the competition is extremely high.

It is no secret that this Nation is keenly interested, in the most effective use of its manpower potential. All segments of the community - government, management, labor, educators, etc. - are urged to give serious attention to the problem, of not only preparing the Nation's manpower to function at the maximum of its potentials, but also its utilization to the highest point of productivity.

The responsibility of the educator, in the task of preparing and guiding our manpower potential to the end that its utilization will be most effective, is second to none. With regards to the non-white population, the problem is extremely difficult. Any program to be successful must deal with problems that are basic in our culture. This means that old habits must be replaced with habits conducive to the new trends emanating from a rapidly changing world of work.

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[10] See "Special Labor Force Report," No. 33, U. S. Department of Labor, pp. 1-4.

An effective program of vocational and career guidance, for non-whites, must first recognize that all doors to all job opportunities are open to them. The future problem, in this respect, is one of pushing the doors wide open. However, the latter is contingent upon such factors as discrimination, the lack of education and job experience.

Efforts to correct the insufficiencies of non-whites, with regards to education and job experience, must not ignore the fact that prejudice is basic to these two processes. Consequently, school administrators and guidance counselors must approach the problem of constructing a vocational guidance program, for non-whites, free of all predilections, which tend to color the principle "merit employment." Furthermore, the program must recognize that the training and job experience lags, of non-whites, are due largely to the fact that, they have been denied the right to participate in these experiences. It is generally accepted, by recognized authority, that the inherent capacities of non-whites do not differ materially from those of members of other groups. Until our guidance counselors recognize and accept this truth, they will not be successful in effectuating a program of guidance based upon this tenet.

Selecting Vocational Guidance Personnel. Careful attention must be given to the task of selecting the personnel suitable for vocational guidance and career counseling of non-whites. In the past, and even today, school personnel have been and are guilty of judging non-whites, in the light of the many stereotypes that cast them in the role of inferiors, incapable of certain types of accomplishments.

Many, far too many, youthful non-whites have been advised, by school personnel, to forget their aspirations. Such counsel hasn't always been dispensed with tact. In fact, it too often was designed to embarrass and belittle.

It is imperative that all persons, involved in a program of vocational guidance, for non-whites, be selected with care. And they should be trained to deal with personalities that, due to centuries of denial and rejection, have come to doubt and be suspicious of all positive offers in their interest. Such persons must be objective enough to set aside their prejudices. They also must be motivated by a degree of empathy, that will enable them to identify with the counselee. To do this, a tremendous selling job is necessary. The elements of the program must be organized and presented to the end, that the counselee will feel and accept, the administrators, of the program, as persons of sincerity and good will. Secondly, the program must be practical. That is, it must be based upon the existing job outlook, in regards to the occupational opportunities available to non-whites. In other words, it must recognize the fact that the current labor market represents the beginning of a new era, in job opportunities for non-whites. One in which the "exception," in job acquisition, has become the "rule" and the rule the "exception."

The Role of the Non-White Parent. The non-white parent is, in my opinion, the key to a successful vocational guidance program for non-whites. His heritage, of doubt, suspicion, the lack of confidence and the denial, by implication, of his existence, is a powerful tool, of opposition, that must be reckoned with.

He has been hurt too many times by the "no job" response to his application for work. Consequently, there is a tendency for him to discourage the occupational aspirations of his children, if they fall outside of the boundaries of traditional careers for non-whites.

Use the parent-teacher associations to win the support of non-white parents. Structure the organization with a view to having the parent-members play a more active role. Draw up a prospectus designed to establish the spirit of "working together" for the common good. In other words, win the parent's confidence, and thereby his belief in the brotherhood of man.

The Caste System. The program must be cognizant of the caste system trend, that is developing in our society. The percentage of non-whites caught in its web is much greater than that of the whites. Members of the caste system embrace social values, that are unlike the so-called middle class values. Consequently the program must develop counseling and testing tools that will lend themselves to meaningful communication with such counselees.

Public Employment Service. I think that consideration, of a serious nature, should be given to question of the role, of the state employment service, in an effective vocational guidance program. I am sure that these agencies can be very helpful in supplying factual information, with regards to industrial and occupational trends and labor market information, in general. Schools should involve state employment agencies in periodic seminars or workshops. In this way, vocational guidance personnel will be able to keep abreast with job trends, and employer acceptance of job-seekers on the basis of merit.

EDUCATIONALLY DISADVANTAGED YOUTH

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The title assigned to me for this panel might be looked at from several points of view. If the emphasis is placed upon "educationally" disadvantaged youth, then should our focus of attention be upon the "dropout" or the "push out?" The literature in this area is tremendous.

Another emphasis might be placed upon the term "disadvantaged." There is an expanding literature in this area. This group is also referred to as culturally deprived or culturally different, hard-core groups, and the socio-economically handicapped. But to some the word handicapped seems to be more of a province of the physically handicapped or disabled, and so there seems to be a trend to refer to this disadvantaged group as socio-economically disadvantaged. Other writers refer to them as the underpriviledged, or persons with special needs.

At least there may be more agreement on the term youth. Some will think of them as the typical school age child, six to eighteen, while others will think of them as young people under age twenty-five. So, you see this group comes from all points along the educational continuum -- elementary, secondary, post high school, junior college, college. In reality even the young adult might be our province when we speak of youth. But we need not quible over definitions.

This paper will be organized around four areas, each of which could be expanded considerably. These areas are (1) a vignette of the culturally deprived, (2) some perceptions of this group of education and the school, (3) the role of guidance services in working with the disadvantaged, and (4) some suggestions for guidelines for research and practice.

1. Culturally Deprived

In order to give us a frame of reference to the term "disadvantaged," points of view might be cited from numerous references, but one which synthesizes several points of view and one of the best, as I see it, for this specific audience is the point of view expressed by Barbara Kemp[1] in "The Youth We Haven't Served" in the American Vocational Journal, October, 1965. I quote:

> "In identifying the academically and socio-economically handicapped, the Division of Vocational and Technical Education includes those youth and adults who live in communities or come from families where there is a preponderence of the following characteristics:
>
> -- low income
> -- poor educational background and preparation
> -- poor health and nutrition
> -- family heads are semi-skilled or unskilled
> -- excessive unemployment
> -- belonging to ethnic groups which have been discriminated against or have difficulty in assimilating into the majority culture
> -- isolated from cultural, educational and/or employment opportunities
> -- having emotional and psychological problems which are not serious enough to require constant attention or institutionalization
> -- lack of motivation for obtaining an education or acquiring a job skill -- due to a combination of environmental and other factors
> -- dependency on social services to meet their basic needs
> -- lack of political power or community cohesiveness to articulate and effectuate their needs"

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[1] Barbara Kemp. The Youth We Haven't Served. American Vocational Journal, 1965, 40, 24-26.

It is not to be construed that the educationally disadvantaged youth fits neatly into one of these categories, but most often they will be in several of these categories and for some, probably in all of these categories.

2. Their Perceptions of Education and/or School

The topic assigned is educationally disadvantaged and is used as an adverb -- by means of education or from the viewpoint of education. This may be conceived as "education" or as "school." As Riessman[2] points out, it is education versus the school and that education is desired by the culturally deprived more than is generally recognized. If they want education, then we must examine our school practices and the attitudes of educators toward the meanings of education for this special group.

The middle-class citizen conceives the school system as emphasizing knowledge for its own sake. But this is not always the conception of the culturally deprived. They desire education for vocational improvement. Consequently, there is a wide gap between education and the school.

We do not really understand or really get to know the feelings and the attitudes of the disadvantaged youth by reading about them and their problems by reading Riessman's The Culturally Deprived Child, or Eells' et. al., Intelligence and Cultural Differences, or Hyman's The Values Systems of Different Classes, or Schulberg's What Makes Sammy Run. These vicarious experiences are a part of our own understanding, but we must do more, we need to have some first hand contact with disadvantaged youth to really understand them.

As a counselor educator I felt that it was incumbent upon me to try to understand how some of these "dropouts" perceived their educational and school experiences. I also felt that it was important for me to try to understand the role of a counselor with a group of educationally disadvantaged youth.

It was my privilege to participate in a program called Operation Second Chance made possible by a grant to the North Carolina Department of Administration from the Office of Manpower Automation and Training of the U. S. Department of Labor and the Area Redevelopment Administration at Lincoln County in the Piedmont. The central purpose of Operation Second Chance (OSC) was to train school dropouts for employment. Dr. Norman Chansky, Professor of Psychology and Research in our School of Education was the project director.[3]

It was the hope to teach the jobless a trade and to increase the level of technical competence of the unemployed. Employment status does not happen by chance. Rather it is a logical outcome of training. The kind of training program and the degree of competence of the trainee, it is assumed, definitely affect employment, but employment as well as training may be related to personal attributes of the trainee. The more able might be expected to perform better than the less able tasks demanding more mental ability. The more cooperative worker might be expected to work better than the less cooperative at tasks like these in brick masonry. Stated another way, a trainee brings his individual attribute "mix" into the training situation. Elements within this "mix" are related to success in training. These elements plus success in training have a bearing on employment. Employment, however, hinges upon factors like job opportunities, personnel practices, and wage incentives; all of which are extrinsic to training. Some of the reactions found were (1) the dropout's view of the reasons and causes for early school leaving was quite different from that of his teachers and principals, (2) the absence of relevance of learning to the potential dropout's aspirations set the stage for him to become a nonparticipant in school, (3) the withdrawal was spurred on by student's and teacher's rejection because he does not feel a part of the school body, (4) we found he reads below grade level, he fails many subjects, he achieves little relative to ability, and participates little in extra-curricular activities, (5) he was greeted with hostility, pity had been extended to him, too.

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[2] F. Riessman, The Culturally Deprived Child. New York: Harper, 1962.

[3] N. M. Chansky, Untapped Good: The Rehabilitation of High School Dropouts.

The school personnel lack understanding of their special needs and problems, or they ignore them. They do not speak the same language of the school personnel. Certainly they were affected by the prevailing values in the schools, but they often do not have the economic resources, experience, background, or social values to gain them. They set up a verbal facade which becomes difficult to penetrate. This facade was adaptive because it permits them to maintain themselves in a basically unfriendly society. As one said, "If you try to do the work to pass, they would say that you are not trying." They found the OSC teachers more sympathetic and that they cared about individual students. The enrollee found OSC more satisfying than previous public school experience. A majority were excited that they could improve in reading, geometry and history.

As Riessman[4] points out in his chapter on The Slow Gifted Child, that he communicates on a different wave length and cites the deprived child with having the following characteristics:

1. Physical and visual rather than aural
2. Content-centered rather than form-centered
3. Externally oriented rather than introspective
4. Problem-centered rather than abstract-centered
5. Inductive rather than deductive
6. Spatial rather than temporal
7. Slow, careful, patient, perservering (in areas of importance) rather than quick, clever, facile, flexible (1962, pg. 73)

3. The Role of Guidance Services

Now that we have tried to understand how the educationally disadvantaged youth are perceived and how they perceive their public school experience, we may now turn our attention to the role of the guidance services in meeting the needs of disadvantaged youth.

Barbara Kemp[5] stated in a paper read at the recent American Vocational Association Convention in Miami that a survey had been conducted by the Guidance and Counseling Branch of the Office of Education of 109 counselors in 18 major cities revealed that many school counselors working in socio-economically depressed communities of low income families and/or minority ethnic groups have found more satisfaction, more sense of accomplishment, more appreciation, and more challenge than when they worked with youths more attuned to their own cultural value system.

It was interesting to note this finding on the part of school counselors because the school experience of the disadvantaged has been one in which he was the low man on the totem pole. To be sure, schools have been slowly developing programs to increase their holding power, and guidance services have increased, but have they met the needs of various special groups?

Changing school policies is easy enough. Correlating the newer school practices with the newer policies meets several obstacles. Practices once established tend through inertia to maintain themselves. Mentally the counselors and teachers reconcile their old ways with the newer policies. Changing the name of their activity, however, does not change the activity itself.

Counseling is no panacea. Alone it may help the student face life with greater equanimity. Together with the teachers and administrators and other school personnel such as the nurse, the social worker and the school psychologist, the school environment might be changed. Nor is it just a school problem. It is, in fact, a concern of the entire community because the student may be acting out in school problems caused elsewhere.

Clients conduct themselves in a manner to please the counselor. The trained counselor should be prepared for this. Also he should be prepared for counter-transference, or volleys of agresion aimed at what he represents. In both situations he should not confuse the client's words with the spirit in which he speaks them.

The school counselor may help the youth face the unpleasant and speak about their fears. This would clear the way for the individual to develop more realistic aspirations for himself, to devise alternative paths to attaining his goals and removing frustrations, and behave harmoniously with others.

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[4] F. Riessman, The Culturally Deprived Child. New York: Harper, 1962.

[5] Barbara Kemp, Speech delivered at the American Vocational Association Convention, Miami, Florida, December, 1965.

In a counseling situation, students will experience catharsis, to discharge bottled up tension. Frequently the release of this tension is sufficient to allow him to see his problems more clearly as well as the alternative solutions in perspective. Counseling may be supportive. Students have worked out solutions to their problems but are encouraged to actualize them after they have first checked them with an interested adult.

Vocational counseling is a primary need for this group. Through catharsis and supportive counseling it might help the individual to overcome the fear of being unsuccessful.

The counselor's day is more than the regular school day. It may be necessary to have evening office hours for the parents. Especially for this socio-economic group as it is almost impossible for them to come during the school hours.

Group guidance is an important technique and can be used effectively with disadvantaged youth. Gazda, Duncan, and Meadows[6] in a survey of "group" or "multiple" counseling found from a sample of 54 different senior authors that group counseling approximates a 'real life situation' and represents a small community of peers through which each member can 'test reality,' 'practice identification,' 'obtain feedback,' for the purpose of improving 'self-understanding' and 'self-acceptance,' understanding of others and acceptance of others or, generally speaking, improving interpersonal relations.... It also promotes the 'mutual sharing of ideas, problems, experiences and feelings' usually alleviating one's 'feeling of being different...and that group counseling 'facilitates the effective application of peer group pressure.'

One of the disadvantages listed was that this technique requires a more skillful counselor; for example, expertness in group dynamics and greater sensitivity. The majority of the respondents indicated that they had formal training in group work, but when asked to report on the type of group work, the majority mentioned it has been with college students. It would seem that in any training program for group guidance we try to make provisions for our trainees to have the opportunity to work with groups from the socio-economically disadvantaged as well as with college students. A few had worked with dropouts and potential dropouts.

Duncan[7] in a study of short-term group counseling on selected characteristics of culturally deprived ninth grade students, found in his sample that short-term group counseling made deprived ninth grade male students feel more free to report problems both in the area of home and family than do a similar group of females. Through this experimental approach he felt that group counseling was an effective means of having students to begin to deal effectively with some of their problems.

The technique of group counseling may be the "acres of diamonds" for constructive work with the educationally disadvantaged. Certainly it offers a good potential for further research.

4. Some Suggestions for Guidelines for Research and Practice

It is important for the counselor to work with vocational and technical educators to develop attitudes as to the worthwhileness of all types of work. In my opinion this will mean that we need to start in the elementary school. A number of studies have been made which will help us identify the educationally disadvantaged in the elementary grades.

We have already launched a research program for Shaping Flexible Vocational Behavior in Youth at North Carolina State University. The purposes of the program are:

1. To devise teaching and counseling procedures which befit resolution of certain crises in vocational education.

2. To link combinations of abilities, scholastic achievement, vocational interests, and work strategies to receptivity to generalist counseling and generalist technical training at two grade levels: five and eight.

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[6] G. M. Gazda, and J. A. Duncan, and E. M. Meadows. Survey of "Group" or "Multiple" Counseling Mimeographed, Unpublished manuscript, University of Georgia, Athens, Georgia, August, 1965.

[7] J. A. Duncan and G. M. Gazda. Significant Content of Group Counseling Sessions With Culturally Deprived Ninth Grade Students. Unpublished manuscript, University of Georgia, Athens, Georgia, August, 1965.

3. To link combinations of abilities, scholastic achievement, vocational interests and work strategies to age, sex, race, industry-agriculture ratio in a community, occupational responsibility of a parent, and status of place of residence.

4. To explore the viability of several ways to categorize human resources.

It is anticipated that programs to be developed will engage potential dropouts and potentially underemployed future workers in educational experiences which are personally relevant. Such training experiences alone will better prepare the disadvantaged for the world of work. Equally important, however, is this -- by becoming more involved in personally relevant school activities, students will more easily experience success. Their successes will generate and sustain motivation for school. Hopefully the result will be better educated and more competent working citizens.

To start with, the "attribute blends" of age, sex, and racial group will be surveyed.

1. What are the "attribute blends" of fifth, eighth, and eleventh graders?

2. Are the "attribute blends" of Negroes different from those of Caucasians?

3. Are the "attribute blends" of males at each grade level different from those of females?

4. Are there differences in the "attributive blends" between communities predominatly agricultural, manufacturing, and service?

5. Are there differences in the "attributive blends" of communities differing in economic status?

This research program is funded for 18 months and it is anticipated it will be extended two or three years more.

Other suggested programs might be considered are:

1. Studies have been made to determine the competencies needed by school counselors, college counselors, employment counselors, etc., and so we might add another. What are the educational and vocational competencies that will be required of vocational counselors in order to facilitate their work in meeting the need of educationally disadvantaged and the hard-core unemployed. One result of such a study would be the publication of guidelines for the preparation of counselors to serve in this important area of our society.

2. A number of demonstration projects such as Operation Second Chance and many other MDTA programs have been phased out. It is important that some follow-up studies be made to evaluate the programs and the individuals who have participated in these various programs.

3. The development of a sequential series of demonstrations, lectures, film strips, etc., to be used by various programs to help develop good work habits.

4. A research study to determine the level of visual perception of school dropouts enrolled in a training program in comparison to in-school students of the same educational level as that of the dropout. The purpose would be to study visual perception, especially the closure phenomena as a factor in academic achievement. (Higgins-Wertman Test: Threshold of Visual Closure, published by Hawk Associates, 31 South Lake Avenue, Albany 3, New York.)

5. A research project to develop a "measuring device" that could be used to ascertain the relationships between the study habits and work habits of the educationally disadvantaged. Such an instrument will have to be orientated to a grade level from three to six. We have such devices for college students and high school students.

6. A comprehensive study of the Impact of the School System Upon Occupational Choice. This might be a three pronged approach:

(a) The Role Theory of the Vocational Counselor (Neal Gross, Ward S. Mason, and A. W. McEachern, Explorations in Role Analysis, J. Wiley & Sons, New York, 1958). It could be approached from role clarity, role concensus and role conflict of the vocational counselor. Also the "role set" (Robert K. Merton, Social Theory and Social Structure Revised, Free Press, Macmillan Company, New York, 1957).

(b) A second segment might be the relations between cultural role definitions and the subjective role definitions of position incumbents.

(c) A third problem for study concerning the role of the vocational counselor is the functional consequences of his role performance. Broadly conceived, the question simply concerns whether or not the vocational counselor has any influence on the counselee.

Thus the study would concentrate upon (1) the actual behavior of the counselor; (2) the expectations held by those in such positions as principals, teachers and students; and (3) upon the effects of counseling upon student decisions.

In closing, may I say each of us speak effectively of our programs in the degree that others have confidence in us regardless of the level at which we work.

APPROACHES TO IMPROVING THE IMAGE OF VOCATIONAL-TECHNICAL EDUCATION

Moderator: William B. Logan

Public relations: Walter W. Seifert

Vocational education: Byrl R. Shoemaker

Sociology: Shailer Thomas and Ronald G. Corwin

Labor: Otto Pragan

PUBLIC RELATIONS: THE KEY TO UNDERSTANDING AND SUPPORT

Walter W. Seifert
The Ohio State University

Clement Attlee once made a perceptive observation that "The people of this world are islands, shouting at each other over seas of misunderstanding."

As life on this globe becomes increasingly complex, and miracles of science bring peoples closer together in a physical sense, in other very important ways we seem to grow further and further apart.

We all know this is true on the international scene, and most of us professionals are keenly sensitive to its implications in our highly specialized fields. Everywhere I go---to meetings of Physicians, Lawyers, Industrialists, and Educators, I hear the same complaint: "No one outside this profession seems to understand what we are trying to do, why it is vitally needed, and what we have accomplished."

My own profession, Public Relations, builds bridges of understanding between these isolated islands. We believe that public opinion is the ruling force in democracies, and that the people will favor "those who do good and see that they get reasonable credit for it."

That little word "see" is keenly important in this context. It alludes to the fact that you don't automatically receive public credit for your fine product or service. It underscores the truth that virtue is not its own reward in our modern highly-competitive society; that in the words of a Biblical injunction you must "Let your light so shine among men that they will see your good works." It was expressed in rather unacademic terms by this recent poem:

> "The man who whispers down a well
> About the goods he has to sell
> Will never make as many dollars
> As the man who climbs a tree and hollers."

Now please don't get the idea I am advocating that our Vocational Technical educators should spend half their time promoting what they do in the other half. A sound public relations program does not require anything like that. Nor does it postulate the heresy that "telling" is as important as the basic "doing." In simplest words, an effective public relations program is based on Performance Recognized, and we must never forget the performance is first.

One of the first considerations in planning PR progress is to recognize the fact that every institution and every academic discipline already has existing public relations. It is "the sum total of what all who know you think about you, feel about you and do about you." This image keeps moving up or down or stays where it is. A planned public relations program will pay heavy dividends, in my view, by moving your existing public image forward.

Justice Holmes and Brandeis, in their famous "Marketplace Decision" said that America makes its decisions day after day in the marketplace of public opinion. They referred especially to our various public forums, including newspapers, radio, television and the millions of back fence gossips that go on all the time. They said that each idea---such as Vocational-Technical Education---is entitled to a full and fair hearing before these formal and informal courts of public opinion. They implied that each proposition must be continuously and articulately represented to the American people or they will vote thumbs down. The also implied that no institution or academic discipline like Vocational-Technical Education can afford the luxury of silence;that those who draw their support from the people must report back to the people all the time.

This is why public relations has quadrupled in size during the 25 years I've been a practitioner. No hospital, no large school system, and no university can possibly escape this obligation to share honest, interesting information. That's why you'll find dozens of specialized people on this campus who spend their time promoting.

Those who fail to report their progress, and just hope for the best, give their critics the entire field. There are always trends that need explaining, questions that cry for answers, and achievements that ache to be told.

To get right down to your field, I submit this evidence as an outsider who has never studied in it, who mashes his thumb each time he wields a hammer, and who wishes he had at lease one course in motor mechanics:

Out in the marketplace of public opinion I've heard for years such statements as these:

"The best kids take the classical course. Only the boneheads take shop."

"Most shop classes in our big cities are largely custodial, to keep the brats from slicing up one another."

And, in recent months, I've often heard it said, "Now that computers will run most machines, we won't need workers anymore." (I always smile at that word "workers" because it carries the implication that management doesn't work.)

I suspect that each of you has logical answers to all of these questions, and I submit that you must speak up and out so your detractors do not speak without rebuttal. This is said in the firm belief that if you "give light" the American people will make good judgments.

In an effort to simplify the rather complex functions of public relations we have grouped them together in the mnemonic RACE.

The "R" stands for research---finding out what your problems are and postulating solutions.

The "A" means action---actually doing things that make news well worth reporting.

"C" is for communication---sharing honest information with all public concerned, so they will understand and favor the enterprise you are engaged in.

"E" completes the cycle with evaluation---ascertaining how well each phase of your public relations programs worked, how many people it reached, and what attitudinal improvements resulted.

At the risk of gross immodesty, I urge each person who wants to engage in public relations activity to take one or more of the professional courses now offered by certain leading universities like Ohio State. For those who find this impossible, I now shall summarize the highlights of the entire curriculum in a brief checklist:

1. Research:

    a. Have you established PR goals?

    b. Do you have a PR budget?

    c. Do you have a PR project timetable and/or flowchart?

    d. Do you know current industrial demands for Vo/Tech/Ed graduates?

    e. Do you study economic trends seeking favoring flaws?

    f. Are you an active member of your professional societies or just a member in name only?

    g. Have you pinpointed the nature and scope of each of the publics that affect the future of Vo/Tech/Ed.?

h. Do you have a planned action program to reach each of these publics continuously and favorably?

i. Do you know exactly what image of Vo/Tech/Ed. you want to transmit?

j. Do you occasionally "test the line" to learn why and how you get the students you do, and why you don't get others who seem logical prospects?

k. Do you follow the progress of your Vo/Tech/Ed. graduates in an effort to prove the value of your courses?

2. Action:

a. Have you the best possible "Product" or "service" to sell? (Vo/Tech/Ed.)

b. Do you encourage and recognize special student projects?

c. Do your people create dynamic displays for special school nights, county fairs, etc.?

d. Do your best students enter state and national competitions?

e. Do you publicize achievements of faculty and students in Vo/Tech/Ed.?

f. Do you speak on your subject to service clubs, freshman assemblies, etc.?

g. Do you involve industrialists in your classroom program as speakers and/or advisers? (An ounce of meaningful participation is worth a ton of cold printed words.)

h. Do you make "news" by tie-ins with special events like community Sesquicentennials? Holidays?

i. Do you prepare visual aids on your local program to make talk aand discussions more graphic?

j. When state or national Vo/Tech/Ed. leaders visit your schools or area do you help them make effective news? (Press-Radio-TV News Conference).

k. Do you organize and publicize field trips by students?

l. Do you see that teachers under your supervision plan, conduct and evaluate local public relations programs?

m. If so, do you organize and present PR workshops to help get the values of Vo/Tech/Ed. well-known?

3. Communication:

a. Do you have a regular program for interpreting and promoting Vo/Tech/Ed. to your present students? (Your best prospects are your present customers.)

b. Do you communicate the values of your field to prospective students? To your staff colleagues? To your school administrators? Your School Board? Your Parent Public? Your Industrial and Civic Leaders? Your General Public?

c. Do you send regular news and feature releases to your school papers?

d. Do you send releases to your local Press, Radio and TV, directed to the right reporters? Do you cover the weekly papers also?

e. Do you sometimes invite star reporters to come to your workshops and cover big stories first-hand? (Now and then on an exclusive basis, not divulged to others?)

f. Do you report your local accomplishments and trends to district, state and national professional publications?

g. Do you communicate with prospective Vo/Tech/Ed. teachers, to help secure the future of your profession?

4. **Evaluation:**

   a. Do you analyze each PR activity from time to time to relate its value to your public relations goals?

   b. Do you report on PR progress to your superiors?

   c. Do you keep a PR scrapbook, showing positive proof of broad public contacts?

   d. Have you ever compared PR results with previous years?

   e. Do you evaluate social, political and economic trends plus psychological and academic "climates of opinion" to determine their affect on Vo/Tech/Ed.?

In concluding these necessarily brief suggestions, I'd like to close with a message from Dr. Harold H. Eibling, Superintendent of the Columbus, Ohio, Public Schools.

Dr. Eibling said this about school public relations in a recently recorded talk:

"The practice of public relations is both simple and complex. It is as simple as the daily application of common sense and courtesy, and as complex as pleading a cause in the arena of public opinion.

"Public opinion is important to us in Columbus. We have many publics which form opinions about Columbus schools--the Board of Education, teachers, employees, pupils, parents, service clubs, civic groups, churches, labor unions and industry. These publics will always form opinions of Columbus public schools---good or bad---whether we do anything about influencing their opinions or not. But they cannot form good opinions of Columbus schools if we hide silently inside our school buildings. The more our many publics get to know us, the more likely they are to have good opinions of us."

"Public relations thinking is a requirement for every successful administrator. Thomas Jefferson sounded one of the first notes for school public relations programs when he proclaimed, 'Educate and inform the whole mass of people. They are the only reliance for the preservation of liberty.'

"To meet this responsibility, education must be bulwarked by understanding and support. This is the job of public relations."

APPROACHES TO MODIFYING THE IMAGE OF VOCATIONAL-TECHNICAL EDUCATION

Byrl R. Shoemaker
Director, Division of Vocational Education,State of Ohio

During the years that I served as State Supervisor of Trade and Industrial Education, and then, in more recent years as Director of Vocational Education, members of the Vocational Education Staff have constantly pushed for the employment of a public relations person on a full-time basis as a part of the State Staff personnel. I have consistently resisted this push, because of the belief that the development of a good image for vocational education throughout the State would have little relationship to the efforts of such a public relations person.

During this fall, I have received by way of a clipping service, approximately eight hundred newspaper articles published in newspapers throughout Ohio. Not one of these articles was written by a member of our Staff or by members of local vocational education staffs. In all of those articles, only three could be counted as critical of vocational education.

Approximately ten years ago, when Ralph Howard was still Director of Vocational Education, we brought before our Division Staff some public relations and public information experts. All of them pointed up the values of good communications and the importance of using the various communications media. But, two things from this meeting have remained with me as techniques for developing a good public relations program. The concepts seem very simple, but, many of the important things in life are simple.

1. If your cause is just, fight for it.
2. Do a good job and tell others about it.

I believe that too often we confuse the concept of publicity with the area of public relations. Good publicity is desirable, but it is only a part of good public relations; perhaps it is the minor part of public relations.

I believe that in Ohio we have made a big step toward the development of a good image for vocational-technical education. Throughout Ohio discussions between school personnel and between school personnel and the business community are concerned not with "why" or "whether" vocational education, but, "how" and "when" vocational education.

I believe that our efforts over the past number of years have reached certain publics, and developed within those publics a good image of vocational education. I believe that school administrators throughout Ohio have a good image of vocational education, respect its place in the total curriculum, and are sincerely interested in implementing sound, comprehensive programs of vocational education. I believe that the majority of businesses and industries within Ohio believe in and are supporting the establishment of sound and comprehensive programs of vocational and technical education.

Through our survey services to local communities within the State, we have talked to thousands of representatives from labor, management, and the lay public. We have talked to thousands of people from areas of agriculture, business, distribution, industry, service areas, and homes, including the professions concerned with the development of post-high school technical education programs. Almost one hundred per cent of these groups and the people within those groups have supported the establishment of sound programs, as they have understood these programs. We have evidence, however, through voting at the polls this fall, that we have a need to improve our public relations with, or our image with, parents, uninvolved voters (as far as schools are concerned), and teacher groups.

There is an old Chinese proverb regarding coordinators of cooperative education programs, which goes something like this:

"Coordinator who wears out seat of pants before he wears out soles of shoes is making contact in the wrong places."

Our efforts in improving the image of vocational education in Ohio might be characterized by the slogan:

"Have services to provide; will travel day or night."

Our tools have included:

1. Facts about employment.
2. Facts about enrollments within our high school programs.
3. Facts about drop-outs and actual college enrollments.
4. Facts about trends in employment.
5. Facts about student interest.
6. Facts about existing vocational programs.
7. Facts about the holding power of our vocational high schools.

Other tools have been aids, films and brochures, and laws permitting the development of sound programs. Our greatest tool, however, has been an able and dedicated staff in supervision, teacher education, and special services, working as a team within the Division of Vocational Education, but organized within the Division on the basis of the major services of agriculture, business and office, distribution, homemaking, and trade and industrial education.

Our basic technique in the area of improving our image has been based upon face-to-face meetings with as many groups of people as can be encouraged to listen to the story of vocational education. Our major service has been a community survey to assist areas to determine their needs for vocational and technical education. The surveys have required much time and effort and the involvment of every service within the Division on each survey. The result of the survey efforts are often slow in coming, and sometimes no results are noted even after a year or so following the survey action. Our staff, however, now recognizes our efforts in conducting the numbers of surveys throughout Ohio as being a prime factor in the improvement of the image concerning vocational education within our State.

The survey procedure involves such activities as administering a vocational planning questionnaire to all students in the tenth and eleventh grades of the school districts participating in the survey. It involves meeting with leaders from all the areas of the business community, including both labor and management, to obtain information from them concerning employment figures; employment trends; employment practices; and the important question of what would they be willing to support in terms of vocational-technical education in their community. The survey procedure, though simplified, takes a lot of Staff time. It is based upon helping a local community to make their own survey, rather than doing one for them. The focus of the surveys has been upon encouraging a number of school districts to go together to provide sufficient tax base and a sufficient student body to provide for a broad vocational and technical education program to serve both youth and adults. Each survey involves at least the following services from the Division of Vocational Education:

1. A meeting with the school administrators of the area interested in a survey by a representative or representatives of the Division of Vocational Education Staff.

2. A meeting with members of all the Boards of Education of the area considering a survey in which a representative of the Division of Vocational Education would explain the need for vocational education and explain the laws permitting the establishment of a joint vocational school district.

3. A planning meeting involving representatives of each of the Vocational Services and representatives from all school districts that would be participating in the survey, at which time assignments of responsibility are made to the local group.

4. The administration of a vocational planning questionnaire to students enrolled in the tenth and eleventh grades of the school districts participating in the survey to determine student interest.

5. A dinner meeting involving representatives from agriculture, business, distribution, industry, and homemaking to acquaint these groups with vocational and technical education and to obtain facts and opinions from these groups regarding the vocational education program to serve their area.

6. The writing of a final report by our Division of Vocational Education Staff. The publication of this report in sufficient quantity, approximately 400 per survey, to provide for broad distribution within the area surveyed.

7. A meeting with the administrators in the area surveyed to interpret the report.

8. Planning services from representatives from our Staff to assist school administrators to develop an operating plan for vocational education within the area.

9. Counsel and assistance in the organization of a joint vocational school district board, and procedures for presenting bond and operating levies to the public.

10. Advice and counsel on a building program.

11. Assistance in the organization and operation of the new program.

12. Financial assistance to local districts in the construction, equipping, and operation of the vocational education programs. Without this twelfth item, there would probably not be the other eleven.

During the 1964-65 school year, our Division of Vocational Education assisted counties or groups of counties to conduct sixteen community surveys.

Since the beginning of our survey procedure, which involves both our Division of Vocational Education and the Division of Guidance and Testing within the State Department of Education, we have conducted forty-four community surveys.

As a result of the efforts of our Staff in this survey service, fourteen joint vocational school districts have been approved by the State Board of Education and by the local Boards of Education involved in the jointures. Three of these jointures have voted their money to provide for construction, equipment, and operation of vocational education programs. Two of the three also have provided for post-high school technical education programs. Two of these three jointures are in operation; one of them serving nineteen school districts in five counties, enrolling 1,100 high school students, 225 post-high school technical students, and 500 adults in evening classes. Two other area schools within the State serving a number of school districts are in the process of organizing jointures.

This fall, however, the five joint vocational school districts which had bond issues and operating levies on the ballot lost their issues. This was in spite of full support by business, industry, chambers of commerce, school administrators, news media, etc. We believe that there are certain extenuating circumstances in Ohio which have affected the passage of these bond issues. The loss of the tax issues, however, points out that we must do a better job on our image with the individual voter and with teacher groups.

Recognizing our problem of communicating with groups, even when we are willing to travel any place, any where, at any time, we are developing three slide films and sound commentaries to be used as tools in informing the public of the need for quality vocational and technical education programs. The first film is completed. This film is intended to explain vocational education to the high school yonngster, to encourage him to make choices in terms of the future and to utilize vocational education programs in those cases when his future lies in employment in other than the professions upon graduation.

A second film is nearing completion which will be used to orient both high school students and students out of high school concerning the area of technical education. As I use the word technical education, I am speaking of the educational program planned to prepare people as paraprofessionals in two-year post-high school programs. This film will be completed in about a month, and will be used in conjunction with a newly developed technical education planning questionnaire in schools in an area where a post-high school technical program is being considered.

A third film will be completed within the next two months. The third film will be planned to provide an orientation to vocational and technical education for youth and adults for school administration groups, parents, people from the business community, or any other group that is willing to listen to the story of vocational and technical education.

Our Division also has made an effort to expand vocational education in those cities which can offer comprehensive programs on their own. The number of units of vocational education approved in the public schools of Ohio under the State Foundation Program has increased approximately twenty-five percent this one year.

A research study completed recently by the American Institute of Research investigated those relationships between vocational education programs in a local community and community groups, which resulted in more effective vocational education programs pointed toward the importance of:

1. Participation by vocational educators on a face-to-face relationship with community organizations.

2. Direct face-to-face relationships with representatives of labor to enlist their assistance in the organization and operation of a sound vocational program and the placement of the graduates.

3. Direct involvement of employment service personnel in the organization and operation of vocational programs on a continuing basis, rather than numerous, incidental contacts with regard to placing students that the school could not place.

The study would indicate that all mass communication media are important, with the newspaper perhaps being the first or most important media of communication. The study points up, however, that no area of communications is as important as face-to-face relationships with people.

The job of our Division of Vocational Education in improving the image of vocational education might be summarized as follows:

1. Assist local communities to operate sound vocational and technical education programs.

2. Get the facts concerning the need for the expansion of sound vocational and technical education programs.

3. Present these facts to school administrators, boards of education, the business world, etc., in such a manner as to encourage their interest in establishing sound programs of vocational and technical education.

4. Assist local areas to identify the elements of a sound and comprehensive vocational and technical education program needed to serve that area.

5. Help them to organize, build, equip, and operate sound programs of vocational education.

There is no magic formula, no quick solution, just hard work by dedicated and able people with the tools, techniques, initiative, and creativeness to do the job.

SOME COMMENTS ON THE STATUS OF VOCATIONAL EDUCATION IN THE UNITED STATES

Shailer Thomas
and
Ronald G. Corwin
The Ohio State University

The topic before this panel suggests that the field of vocational education has status problems. We, frankly, are not sure what the image or status of vocational education is, or if it is bad. Perhaps, however, there is a clue in the report of a panel of consultants, which noted, "In an over-crowded curriculum in overcrowded schools, however, vocational education competes in a never-ending battle for its share of attention."[1]

Even if the image of vocational education is not as favorable as vocational educators might like, we do not fully understand why they want more prestige. The prestige of a field is related to its attractiveness to potential clients--in this case students who could benefit from vocational education. It cannot be assumed, however, that increasing the status of vocational education is beneficial to the students. In fact, to elevate their status and their likelihood of success, many vocational programs have already set their entrance standards so high that the very students who could most benefit have been excluded.[2] Concern with improving the prestige of vocational education has arisen because of the attention now being given to training "talented" persons needed in the more prestigeful occupations.

Education in general has been slow to change, and to anticipate change in our society. It has perpetuated the status-quo. The fact that vocational education has not been identified with minority group causes, for example, has protected its prestige. Few vocational educators have refused to place students with employers who discriminate against Negroes, and few have encouraged the definance of Negroes. In general few vocational educators have played prominent leadership roles in actively improving job opportunities and work conditions for minority group members. In identifying with the status-quo and middle class standards, vocational educators did not anticipate new opportunities and new openings which have arisen for Negroes in business and trades.[3]

Despite these reservations there are ways of improving the status of vocational education which will benefit clients. However, we are not excited about changing images; and we are especially reluctant to talk about changing the image of vocational education unless educators are willing to change their functions as well. There are two ways to improve ones status. One is to gain authority over a needed social function. The second is to identify vocational education with activities that already have prestige. These approaches will be illustrated by looking at two major points: (1) trends in American Society which affect education, and (2) changes in what vocational education teaches.

Some changes now occuring in American society will have an effect on vocational education. Since many of these changes involve the total political and social system, however, they will be difficult to influence. In this sense, changing the image of vocational education requires political pressure and more lobbying in Washington. While increasing the political power of vocational educators may seem to be a formidable task it will be more feasible and more valuable to you and our society than hiring a public relations expert to promote your image.

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[1] U. S. Office of Education, Education for a Changing World of Work: Report of the Panel of Consultants on Vocational Education, U. S. Government Printing Office, Washington, D. C., 1963, p. 206.

[2] Frances Keppel, "Vocational Education and Poverty" in Gordon (ed) Poverty in America, San Francisco: Chandler Publishing Company, 1965, p. 136.

[3] For example, see Is There a Job in Your Future distributed by the Job Corps under the Office of Economic Opportunity. The major stress of this pamphlet is job training, and the learning of skills necessary for full participation in American Society.

The field of vocational education will increase substantially over the next several years. There will also be changes in the field, its content, and the public that it appears to. Many of these changes, however, will be called by other names. They won't necessarily be referred to as vocational education. Let's consider a few illustrations.

There is currently a concern with poverty in this country. The educational emphasis on middle-class problems and curriculums has reduced the relevance of school for a substantial segment of the school-aged population. Due to the indifference of educators to the problems of the poor, a number of special programs with diverse purposes and overlapping jurisdictions have been initiated. Sometimes these programs are controlled by laymen only marginally connected with the public schools. Pressures to coordinate these programs and to establish some order will grow. Unless educators assume leadership in this field, there is the possibility that a system of education which is separate from the public school system will change. Currently, the leadership vacuum that exists in this area provides an opportunity for vocational educators if they are willing to gain control over educational programs for disadvantaged youths.

Many of those living in poverty lack both education and employable skills. As a result, the War on Poverty includes programs which are in effect vocational training. The Job Corps, for instance, involves the learning of occupational skills. In order to play a larger role in poverty programs, however, vocational educators must become experts on poverty. This means some revision in their training programs, and concentrated research and social action drawing on the social sciences.

Another change in the American society is reflected in the educational system: Federal support. Federal spending in the public elementary and secondary schools has increased from 1.8% (1940) of schools to 4.3% (1962) of the total.[4] Given the difficulties of financing school systems through the local tax structure, increased tax support will come from the federal government. We doubt, that the proportion which vocational education receives will be diminished. In 1963, Vocational education programs were the third largest segment of the programs administered by the U. S. Office of Education.[5] If new vocational programs involving preparation for new types of occupations can be developed this share may increase. Since a field's image is to some extent correlated with the amount of money that it has, the image of vocational education should improve.

The extensiveness of this change will depend, however, on the efforts and success of vocational educators to innovate, to develop new programs, and to be responsive to the national needs for vocational education, rather than to purely local or regional needs.

The adult education movement represents a third major development in American society. Training does not stop in secondary schools or soon after, but continues through a forty year period. In effect, vocational education is extended toward new parts of the population. Adult workers must continually return to school to update their skills and to prepare for changes in their occupations. Continuing education has become so necessary that certain professions require continuous updating of skill and credentials. Two of the professions in Ohio which require this updating are school teachers and medical doctors.[6] Continuing education is increasingly common in other occupations, including such extremes as business executives and firemen.

The shorter work week is upon us and the extension of education into occupations should produce not only a better educated work force but also relieve some of the boredom of not working. When we consider that several unions have negotiated for a thirty hour work week and six week vacations the problem of an abundance of leisure time seems closer. Education may take up the slack.

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[4] Statistical Abstract of the United States. Bureau of the Census, U. S. Department of Commerce, 1965, p. 123, Table No. 164.

[5] Ibid., p. 142, Table No. 195.

[6] See the requirements for the Ohio Academy of General Practice which requires 150 hours of University credit every three years in order to maintain good standing.

The implications of adult education are many. There will be no sharp dichotomy between school and work, the two being intertwined throughout a person's life. It will not be possible to relegate education to only the early years of a person's life. Updating of skills is particularly important when dealing with skilled and semi-skilled occupations. These occupations may not be in existence in 15 years. In this field of continuing education, vocational education can make its greatest strides--if it is prepared to move beyond its safe and traditional functions.

These are just some of the changes occuring in our society and in education which will affect the field of vocation education.

The second major aspect of this paper deals with what vocation education teaches. That is, the content of the field.

In the past, vocational education has consisted of learning specific job skills limited to one specific occupation or occupational field. In a mobile population faced with extremely rapid change it is impossible to anticipate exactly what skills are going to be needed in the next 40-50 years. For example, we wonder about a heavy agricultural orientation for a society in which only 6.5% of the labor force are agriculture workers. These changes will mean greater pressure to equip the work force with skills that will not wear out in a short period of time. Perhaps this is an obvious implication of well-known facts. It seems less obvious, however, that vocational education will turn to what may be called a general education. Vocational education no longer consists of teaching people to put a nut and bolt together. Nor is it restricted to blue collar or working class occupations, or a non-mobile population. It is found in many different occupations at different status levels, with different demands and job skills.

We should not assume that just because so called hard academic subjects are required for college, they are therefore unnecessary for anyone not going to college.[7] Some attempt is necessary to provide a generalizable set of skills that can be applied to a variety of occupational settings, a set of skills that would not restrict ones occupational mobility but facilitate it.

Vocational education programs can be put on a more theoretical basis. We don't mean that the field is not already on a scholarly basis. Rather we are suggesting that students can benefit from an analysis of occupations specifically oriented to the problems faced in the labor market. For example, knowledge of the fluctuating job market, more knowledge of the economic trends of occupations and contemporary social issues such as the right to work law or medicare, and the prospects of automation and leisure. Moreover, people can benefit from knowledge beyond mere technical facts, including information on the prestige hierarchy, styles of life, and leisure problems associated with different occupations. Emphasis on these broad trends might be supplemented with teaching about specific job-related problems, such as how to prepare an income tax return or a job application, where to apply for jobs, how to find jobs in other parts of the nation, problems in moving, and how to read economic reports on wage levels and standards of living costs.

Perhaps the long run implication of these developments is that the traditional distinction between academic work and vocational training is no longer appropriate. There are at least three reasons why we say this.

First, the entire society is assuming a more intellectual basis; the sheer fact of being a citizen is overwhelming in an era symbolized by something so abstract as the atom. In this computer-based society even economics can no longer be comprehended in the simple terms of debits and credits. It has been recognized that much academic training has an occupational objective but we have been slower to admit the reverse: that job training cannot be effective unless it is based on a strong academic curriculum.

Second, the composition of the occupational structure is in a constant state of flux. Between 1955 and 1961, a brief period of only 6 years, office and clerical jobs declined twenty-five percent.[8] There is a lag of unknown proportions between vocational education and the economy which results in the preparation of children for declining occupations in the job market. As Brookover and Nosow [9] have pointed out, vocational education for this kind of changing market, especially when it is geared to regional needs, may actually limit opportunities for mobility, compared to the potential provided by more academic training. This general training has to be successfully adapted to the situations and problems of lower class children. No part of the educational system including vocational education has accomplished this.

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[7] Keppel, op. cit., p. 133.

[8] See studies in Grace Graham The Public School in the American Community, New York: Harper and Row, 1963, pp. 151-154.

[9] Wilbur B. Brookover and Sigmund Nosow A Sociological Analysis of Vocational Education in the United States, Department of Health, Education and Welfare, Purchase Order No. SA-15284-62.

Third, and most important, is the fact that job career ladders are not organized around logically related functions or fields (such as the various jobs connected with metal working). Rather, career ladders consist of administratively determined families of occupations (the situs dimension [10]) that include jobs as diverse as accountants and buyers. In the same way that engineering is often a stepping stone into administration, a typical career ladder in a factory might progress from truck driver to machine-lift operator, to dispatcher, to supply clerk, to warehouse manager. Consequently, substantial proportions of people prepared for specific fields of work such as metal working or merchandising are likely to abandon them even if the job market remains stable.

This shift to a more intellectual base, and the changing composition and structure of the job market, make vocational education in the traditional sense, suspect. However, the situation presents an opportunity to enhance the effectiveness and the status of the field--if vocational educators choose to broaden the traditional program and expand its now limited range of responsibility. Where vocational education programs often have been used as "dumping grounds"for unwanted students, that function could prove to be their strength provided that these students could be assisted more effectively. Perhaps that objective could be comprehended and the prestige of the field simultaneously increased, if the field were to identify itself with general education specifically adapted to this unique clientele. Both the condition of the lower classes and the prestige of vocational education will rise or fall together, depending on the type of program provided.

The development of a general vocational program will be handicapped by the fact that Federal funds are now allocated for specific vocations such as agriculture, home economic and distributive occupations. The preparation for the kind of job market alluded to seems to call for education for work and for leisure. Three components of such a program can be identified.

First, lower class youth can benefit from specialized academic programs of the type already suggested, that are adjusted to their level of motivation and designed to assist them with their problems as they define them. The curriculum could properly emphasize current issues, such as consideration of the implications of the sit-ins and demonstrations, medicare, or the significance of automation, and they could provide practical experience with politics. To be effective, they would have to service families rather than selected members. It might be more feasible to pay pupils to attend these schools rather than pay them only for routine labor.

Second, the curriculum might emphasize enlarging the avocational interests of adolescents (rather than narrowing them as extra-curricular programs often do). Whereas occupations traditionally have been the primary source of social status, the emerging leisure-based society is likely to alter this situation.

Finally, the program profitably could be reorganized to include various age groups. The present discrimination against married high school students, and the artificial separation of adults in need of education from existing programs from which they could benefit, have handicapped adult education and the continued education of dropouts.

As one point of caution, the way in which such a program is organized will influence its effectiveness. If the program is simply fused with existing programs, it is likely to be absorbed and controlled by more dominate parts of school systems. Clark's [11] study of a junior college in California illustrates how some vocational programs have been transformed into academic ones unless precautionary measures are introduced. A program could develop autonomy from the public schools with the aid of federal funds; however, this development would isolate it from the more prestigeful facets of education and would tend to segregate students enrolled in Vocational programs, and prevent them from transferring into more academic programs. The advantage of the program suggested here is that it is at once academic and pragmatic. It permits students to move in many directions with relative ease as both their interests and the economy change.

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[10] Paul K. Hatt, "Occupations and Social Stratification," American Journal of Sociology, 55, (1950), pp. 533-543.

[11] Burton R. Clark, The Open Door College: A Case Study, New York: McGraw-Hill, 1960.

One final point should be made. During this conference you may feel that you have been inundated with criticism about the faults of Vocational Education, the inability of the system to change and meet the changing American society, and the necessity to provide a general education rather than a set of skills that are quickly worn out. In addition, you may feel that all of these words of wisdom are in error since many of them come from the mouths of academicians who have been locked in their Ivory Tower. There can be no better support of some of the comments that have been made in this paper and in other talks at this conference than a careful reading of the New York Times of January 12, 1966.[12] Plans recently announced in New York City would convert the vocational high schools into comprehensive high schools stressing basic educational skills. Vocational training in the present Vocational high schools will be reduced fifty percent. Such reports from the countries largest school system indicate that the comments in this paper have solid foundation in current trends in our society. At least, these reports should encourage people concerned with vocational education to consider their role and function in American Education.

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[12] "City to End Vocational Schools," The New York Times, Wednesday, January 12, 1966, (special education supplement), p. 60.

THE IMAGE OF VOCATIONAL EDUCATION

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I

I would like to start the discussion with an introductory remark about the relationship of the labor movement towards vocational education. It may be interesting to know what the members and officers of unions think about vocational education. But, before we talk about it, we should understand that there is no single, uniform labor position when it comes to vocational education. We can see at least five segments in the labor force for each of whom vocational education takes a different meaning.

First, in our craft unions, whose membership is mostly made up of journeymen and apprentices, vocational education means primarily related training in their trades as part of apprenticeship training and up-grading. The second group comprises the members of unions who have completed a vocational high school before entering a career of work. The third group are those members of unions who have acquired their skills on the job, without any form of school preparation. In the fourth group are the members of unions who work in low-skilled occupations for which no or very little job preparation is required. Finally, the fifth group is made up of the culturally and economically deprived workers who work in unskilled and low-paying jobs, and many of whom are often underemployed or unemployed.

The workers in each of these five segments have a different reaction to what is bad or what is good about our present vocational education system.

Let me mention in this connection, that the American labor movement throughout its history has been always interested in public education and in training people for work. Beyond this general interest, it has been actively involved, for many decades, in shaping the policies for effective vocational education. I would like to emphasize that the basic concept of the American labor movement, as to the purpose of vocational education, is that all Americans -- not just those who belong to unions -- should work under the most advantageous conditions, educationally and economically, in occupations of their choice, in jobs available in the labor market -- at the present and in the future.

It is very interesting to find out what local labor leaders think about vocational education. I have a list of comments on this question, based on recent personal interviews. I would like to read to you some of their comments but I don't seem to have enough time. So let me summarize these comments:

Almost in all instances these union officers mention that vocational education is a second choice for those who fail in the general high school program; there are too few good students who seek vocational education; vocational education programs often overlook lesser skilled occupations; school administrators do not have much interest in vocational education; many school buildings are dilapidated, equipment is outmoded and teachers do not keep up with new developments and techniques; often the skills taught are determined by the requests of the employers and not by the demands of the labor market.

It can be easily seen that this empirical criticism is not far from the findings of many experts in the field of vocational education.

II

No doubt, it can be said that the image of vocational education among union members is not very good. However, I do not want to overemphasize this point because we know that the results of our vocational education system are better than its reputation. Its successes and failures and its strong and weak points have been described most aptly by the Panel of Consultants on Vocational Education and well known to this audience. I hope we also agree that the Vocational Education Act of 1963 provides the tool to build a system of vocational education and training in our communities and in our states which should respond to both -- the requirements of the labor market as well as the choice and the abilities of the student.

It should be pointed out in this connection that the U.S. Congress has passed training and education legislation every year in the last five years.

In 1961 -- the Area Redevelopment Act, providing for a new type of government-financed training and re-training. In 1962 -- The Manpower Development and Training Act, providing a vast program of retraining of the unemployed. In 1963 -- the Vocational Education Act, in 1964- the Economic Opportunity Act , the many-sided war on poverty, and in 1965 -- the primary, secondary and higher education acts, as well as the Appalachia Aid law that provides federal funds for the construction of vocational schools in the Appalachian states.

I think Congress has done its job, and has done it well. Congress has appropriated many billions of dollars for education and training. But, just as important, it has given to the federal, state and local governments a momentous mandate. This mandate in the area of vocational education and training can be summed up as follows:

1) To bring vocational education in line with our manpower needs;
2) To bring vocational education to all groups of our population -- to the young and adults, to the gifted and slow-learners, to the dropouts and the economically and culturally disadvantaged; and to provide equal economic opportunities to all American regardless of race;
3) To spend money for meaningful research and guidance and counselling;
4) To raise the levels of general education which is the necessary bridge to successful preparation for an occupational skill.

These are important new educational tasks. The governments on all three levels share the responsibility for carrying out these tasks. The local communities and the state agencies determine the needs for vocational education, establish the programs, build the schools, hire the teachers and work out the curricula. However, to be eligible for their share of the federal grants, the local and state school authorities must comply with certain standards set by the U.S. Office of Education.

Quite legitimately the question is raised to what degree has our vocational education system changed since the new Vocational Education Act of 1963 has been in effect. Are the programs in the communities and in the states meeting the directions of the new law? We really do not know. We have more area vocational schools. In some states students are being prepared now for some of the new occupations in demand on the labor market. New programs are being developed for training for the distributive occupations. Perhaps, we can speak with greater certainty about the training programs for unemployed workers under MDTA. We begin to obtain some insight into new trends and practices from the research projects funded by the U.S. Office of Education.

We should know much more by January 1968 when the Advisory Council on Vocational Education, to be appointed by the Secretary of Health, Education and Welfare, under the 1963 Act, will submit its report to the President and to the Congress. In my opinion, the review of this Council must become a vital instrument to measure the successes and failures of the implementation on all levels of the new directions Congress gave us in 1963 for vocational education and training.

III

The essential test before us now is: Will the states and communities take full advantage of the many federal programs adopted by Congress in the past five years? Will they adjust efficiently their systems of education and training to the present and future needs of our Society?

It is here where the whole problem of image and respect for vocational education rests.

Never before have the American people expressed such great faith in the power of education as they do now. Education is expected to prepare a person to earn a living. But, it is also education that is suppose to teach him how to live. We depend on education to solve the problems of racial discrimination, to eliminate poverty and to wipe out the slums -- all this by providing our people with exactly the right kind of training to fill the jobs of their choice at exactly the time they are available. The kind of vocational education which will achieve these goals is based on the simple concept of matching job and man within the framework of the realities of our present and future labor market. This concept provides: First, the majority of our young people will be prepared for work in school. Second, the school will prepare the young people not merely for an isolated, single occupation, but for a "family" of occupations in order to meet the requirements of the changing technology in our society; this education will be less job-oriented to satisfy the demands of an individual employer but occupation-oriented to satisfy the needs of the labor market. Thirdly, vocational education will be part of a comprehensive school system -- from the elementary school to the junior college; to place the students most effectively, this school system will work closely with all manpower agencies, including the Employment Service. Finally, curriculum, teachers and counselors will respond to both -- the demands of the labor market as well as the choice and abilities of the student.

IV

If we strive seriously to advance these goals, the prestige and the image of vocational education will be at the same high level as college preparation today. All parts of the world of work will be proud to do their share --the scientist, the engineer, the salesman, the craftsman and the laborer.

This type of vocational education can only be achieved by cooperation -- cooperation of the government of all levels together with the cooperation of the major parts of our society -- business, labor and agriculture. This cooperation can easily be realized in the activities of viable advisory committees on all levels -- nationwide, statewide, community-wide and ad hoc occupational and school committees. If the members of advisory committees will not be merely a post-facto rubber stamp for the actions of the school authorities, but equal partners in the development of policies and programs, this feedback will lead to the vitalization of vocational education.

Working towards improving vocational education will automatically improve its image and its reputation.

THE ROLE AND SERVICE RESPONSIBILITIES OF GUIDANCE COUNSELORS IN VOCATIONAL-TECHNICAL EDUCATION

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Introduction

There has been no major educational legislation passed since 1958 which failed to provide for guidance and counseling services. Yet, in none of this legislation has the Congress provided guidelines helpful in defining "guidance and counseling." As a result, responsibility for providing operational definitions has been necessarily assumed by those charged with administration of the various laws. Such operational definitions have usually been phrased largely in terms of expected results; it is not surprising that administrator expectations and counselor aspirations do not always coincide.

The administrator cannot avoid responsibility for making judgments with respect to benefits derived from funds allocated to guidance and counseling services. The counselor cannot avoid responsibility for determining and implementing what he considers to be appropriate guidance and counseling methodology. The common meeting ground for intelligent discussion between administrators and counselors would seem to lie in specification of guidance and counseling functions stated in terms of observable goals. What should the counselor do in order to fulfill his responsibilities under the Act? How can both practicing administrators and counselors evaluate effectiveness of guidance and counseling services? These are the two essential questions implied in the title of this assigned paper. Each must be answered.

Any set of perceptions regarding counselor role with respect to the Vocational Education Act of 1963 must be built on a vast number of assumptions regarding the role of vocational education in American Education, the kinds of students in vocational education, the changing nature of our total society - including the occupational society, the kinds of people employed as counselors, and the kinds of new research knowledge needed by counselors. I have previously published some of my major assumptions regarding each of these topics. Those interested in such assumptions should consult such papers as listed at the end of this one. To repeat them here in detailed form would be impossible in a time sense and impractical in terms of completion of this assignment. Therefore, while brief reference will be made to several such assumptions in developing the rationale for certain functions, no attempt will be made to elaborate on any of them.

Organization Of This Presentation

The Vocational Education Act of 1963 is specific in stating that vocational guidance and counseling is to be provided both to vocational education and to prospective vocational education students. (While the term "prospective" is broad enough to justify even elementary school guidance functions, the remainder of the Act makes it seem clear that vocational education funds are not to be used in support of elementary school guidance activities.) Further, it is specific in defining four categories of vocational education students: (a) Persons attending high school; (b) Persons who have completed or left high school and are available for full-time study; (c) Persons already in the labor market who need training or re-training; and (d) Persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program. There is no doubt regarding who is to be eligible to receive vocational guidance and counseling under this act.

Furthermore, it is clear that vocational education for secondary students is to take place both in the comprehensive high school and in special vocational schools. Out-of-school youth (both high school graduates and dropouts) will find vocational education under this Act in special area vocational schools and in terminal vocational education programs located in junior college settings. Adults in need of training and/or re-training may find vocational education opportunities in any of these settings while, at least theoretically, separate residential schools will be established and operated under this Act for youth with special handicaps.

It is obvious that considerable differences in counselor role and function can be expected to exist for these various kinds of students and in these various kinds of settings. It is contended here that such differences as do exist will be more readily apparent in the methodology counselors use in implementing their role than in basic nature of counselor role. Therefore, this organization is intended to represent role and service responsibilities of counselors in vocational-technical education irrespective of the student population and the specific setting in which this role is performed. It is hoped that the sacrifice in specificity will be offset by the advantaged to be gained from this search for commonality.

Two additional preliminary points remain. The first consists of making clear that the counselor's job is to serve all students in the school. Therefore, in those settings where both vocational education and non-vocational education students are enrolled, this discussion speaks only to a part of the counselor's job. The second point to be made is that, for each function outlined in this paper, the counselor is viewed as only one person performing this function. That is, no claim is made that the counselor has sole responsibility for discharge of the function. If the administrator is dissatisfied with the extent to which he sees the function being discharged, he may look to the counselor for part of the answer. He will also have to look beyond the counselor to other forces both within and outside of the school for a complete explanation. One of the most unique things about a counselor's role is that there is very little that he does which is truly unique. The counselor's uniqueness is to be found in his relatively _greater_ responsibility and _greater_ competence. That is, most counselors are more concerned with the importance of what they are trying to do than they are with themselves. Their needs for personal recognition are not as great as are their needs for seeing that progress is being made towards the goals of guidance.

With this background, the question of counselor role and service responsibilities can now be approached. This presentation has been organized around an assumption that the counselor is perceived as an active change agent in our society. His influence on various segments of society will provide the basic organizational framework to be used here. An attempt will be made to largely ignore the methodology counselors use in carrying out these functions. That is a different subject.

The Counselor And Prospective Vocational Education Students

The potential of any educational program is limited by the quality and quantity of its students. The long range future of public school vocational education will depend to a very large extent on the kinds and numbers of students who choose to enroll. There is no doubt but what the counselor has a very significant set of functions to perform here. In performing this function, the counselor must work as a counselor - not as a salesman, persuader, recruiter, or coercer of students. Assuming that both counselors and vocational educators can agree to this basic methodology as well as the ultimate goal of securing adequate numbers of quality vocational education students, the following would seem to represent necessary and desirable counselor functions.

1. _The counselor must seek to identify prospective vocational education students from some recognizable larger population._ As part of Education, vocational education is properly pictured as different from rather than either generally superior or inferior to other parts of Education. This implies that, for some persons, vocational education will be "best" while, for others, it will not. There is no more point in talking about vocational education with an exceptionally high ability student from a socially prominent background where both parents are college graduates and the student himself is highly motivated towards college attendance than in talking with an extremely dull student from a culturally disadvantaged and economically handicapped background about his chances for success in college. While it may be philosophically proper to view all persons as prospective vocational education students, it is not operationally feasible to proceed in such a fashion. Some narrowing from the total population must take place. Once this is accomplished, the resulting pool of prospective students will still be considerably greater than that which would exist if students were left entirely to themselves in the decision making process.

2. _The counselor must be knowledgeable and assist prospective vocational education students in becoming knowledgeable regarding alternative educational opportunities._ This means that the counselor must be an active learner with respect to all vocational education opportunities in the local setting. It also means counselors must be equally knowledgeable regarding the other kinds of local educational opportunities and as knowledgeable as possible regarding educational opportunities beyond the local community. The goal here is for both counselors and students to extend their horizons of knowledge with reference to educational

alternatives available to students. This implies responsibility for collection, organization, and dissemination of educational information as important counselor functions. Moreover, it demonstrates basic counselor commitment to students rather than to vocational education programs.

3. The counselor must be knowledgeable and assist prospective vocational education students in becoming knowledgeable regarding alternative occupational opportunities towards which various kinds of training may lead. Section 5 (a) (4) of the VEA is specific in stating that arrangements will be made with the public employment service looking towards the receipt and consideration of information regarding employment opportunities in the local community and elsewhere. That is, there is clear responsibility for counselors to become knowledgeable regarding local employment opportunities twoards which vocational education training may lead. There is equally clear responsibility for learning about occupational opportunities beyond the borders of the local community. To the extent that adequate occupational information can and is supplied counselors by local public employment offices, counselors should welcome it and become acquainted with its basic nature and contents. There is no implication that occupational information should be limited to that supplied by the public employment offices. Neither is there any implication that, if the public employment office fails to supply the counselor with information, the counselor should simply do without. That is, the counselor must secure such information, become knowledgeable regarding its basic nature, and transmit it to students. He can use all the help others may choose to make available to him. If such help is not forthcoming, the counselor must actively perform this function more nearly on his own.

4. The counselor must be knowledgeable and assist prospective vocational education students in becoming knowledgeable regarding relationships between educational and occupational information. The current gulf between educational and occupational information must be quickly narrowed if counselors are to perform this function. It is becoming increasingly important to discuss occupations in terms of education and training required for entry. It seems eminently desirable for counselors to collate their educational and occupational information materials in such ways that their relationships become clear to both counselors and students. Some published information now available to counselors has been organized around recognition of this collating need. Most has not.

5. The counselor must assist prospective vocational education students in making educational-vocational decisions. Performance of this function demands that counselors work with prospective vocational education students at several times in their lives. That is, this function properly involves much more than simply making decisions regarding whether or not to enroll as a vocational education student. To limit vocational education funds to this very narrow counselor activity would be poor use of both available monies and counselor talent. Decisions regarding enrollment as a vocational education student should properly represent only one of the several points in vocational decision making where counselors help students. Furthermore, the criterion to be used by administrators of vocational education programs in assessing counselor effectiveness in performing this function cannot be simply one of numbers of students enrolling in vocational education. Rather, the criterion must become one of the proportion of students enrolling who have really chosen to do so and are aware of the bases for these decisions. A second criterion may consist of the proportion enrolling whose chances for success in vocational education appear reasonably good. The criterion of increases in numbers of students enrolling in vocational education programs will, if the counselor is performing this function well, be appropriate to use in a global evaluation of vocational education offerings in the school but not as a means of evaluating counselor effectiveness. That is, whether or not more students enroll in vocational education should be a function of the relative quality of this as opposed to other educational opportunities available to students.

In summary, perhaps the best way of describing the counselor's function with prospective vocational education students is to state that he should be truly honest in his relationships with such students. This is important to say, trite as it may sound. Vocational education will be best served in the long run if counselors devote their time with prospective vocational education students to presenting as comprehensive a picture as possible both with respect to the student and to his educational-occupational opportunities along with professional assistance to such students in the decision making process.

The Counselor and Vocational Education Students

To assume that students have received adequate counseling and guidance prior to enrolling in vocational education is not to assume that their needs for counseling have been fully met for all time. It is expected that a great deal of counseling and guidance will be needed by students enrolled in vocational education. As with any other counselees, the goals of this counseling should be primarily developmental as opposed to preventive or remedial in nature. The hoped for end product will be individuals who are better able to assume self responsibility for decisions reached and better able to choose wisely from among alternatives available to them.

There is no reason to suspect that the range of normal counseling problems will be different for vocational education students than for any other students. At the same time, there are certain kinds of normal student problems which the counselor should be particularly cognizant of when dealing with these students. This section has been organized around such expected problems of students.

1. The counselor should help each vocational education student see himself as a worthy and worthwhile member of society. Even the best of counseling prior to entry into vocational education cannot be expected to solve this problem for many students. General cultural and societal biases are too strong - biases which will cause many students to regard themselves as "second class" students who have made "second best" choices. It is much easier to say that vocational education represents the best choice for a particular student than to have the student (or many counselors) really believe this to be true. One ingredient essential for helping people realize they are worthwhile is that they believe what they are doing is worthwhile. If the student is to feel important, he must see that what he does is important. The counselor cannot ignore this student need nor fail to accept responsibility for helping vocational education students with these problems associated with development and maintenance of a positive self concept.

2. The counselor should help each student in the process of educational-vocational development. No amount of counseling with a student prior to his entry into a vocational education can really lead the student to know what it would be like to be in the program. This realization must come as a result of his direct experience as a vocational education student. Any program which operates in such a way that no student doubts the wisdom of his decision to enroll is probably suspect. Professional counseling is called for at those points where students are questioning the wisdom of their educational-vocational decisions. The student should expect counseling assistance at those points where relationships between his educational experiences and anticipated occupational choices are unclear to him. Further, he should expect counseling assistance where he is trying to confirm or refute the vocational decisions which led him to enter vocational education. Again, these are not events that occur at a particular, specific point in time and need to be dealt with only once. They are part of educational-vocational development and can be expected to occur with many vocational education students.

3. The counselor should help each student plan and implement actions to be taken following vocational education training. For most students, this will involve activities related to job placement. The fact that the VEA makes it possible for schools to transfer student information to the public employment service for use in occupational guidance and placement does not relieve the vocational education institution from job placement responsibilities. With some students, the counselor's activities may consist almost entirely of helping the student establish relationships with public employment service counselors. With many, the counselor will work with students who seek employment independently of the public employment service. With still others, the counselor's activities may consist of helping the student plan for still futher training in a different type of educational program. The counselor has a responsibility for helping all vocational education students plan some concrete actions following the time the student completes or leaves the training program.

The Counselor And Teachers Of Vocational Education Students

If the goals of guidance in vocational-technical education are to be accomplished, it is essential that teachers of vocational education students be active participants in the total guidance program. The counselor has certain professional leadership roles to play in helping teachers fulfill their guidance responsibilities to students.

1. The counselor should assist teachers of vocational education in learning more about the students they teach. This includes both the presentation of student information to teachers and helping teachers accumulate such information for themselves. Some of these activities will pertain to groups of vocational education students, but much will be concerned with attempts to

learn more about and so understand better individual students in vocational education. The expertise of the counselor in student appraisal methods and procedures should be shared with teachers of vocational education students.

2. The counselor should assist teachers of vocational education in incorporating pertinent occupational information in their course content. Occupational information collected by the counselor should be as available to teachers of vocational education students as it is to the students themselves. The counselor can and often should act as a liaison between the vocational education teacher and business, labor, and industrial personnel in the local community. While the teacher will likely have many such contacts of his own, the counselor should be able to help him extend both his range of contacts and his range of influence.

3. The counselor should assist teachers of vocational education in their attempts to provide guidance and counseling to students. Assisting teachers in developing plans for taking individual differences into account is one example of this kind of activity. Obtaining information for teachers which teachers need in their counseling of individual students is a second example. It is perfectly reasonable to expect that some vocational education students will be both more willing and more able to talk their problems over with one of their teachers than with a counselor. It is equally reasonable to assume that the counselor may be a valuable consultative resource for the teacher in such situations. Still a third example would be counselor activities supporting placement efforts of vocational education teachers on behalf of students.

In all of these kinds of activities, the counselor can prove himself to be a valuable source of consultative help to the vocational education teacher. If vocational education students are to receive maximally helpful guidance, it will be recognized that a two-way consultative relationship exists here. That is, the vocational education teacher will serve as consultant to the counselor fully as often as the counselor serves as a consultant to the teacher.

The Counselor and Administrators of Vocational Education Programs

In any given local setting, counselors and administrators of vocational education will find a wide variety of innovative and unique ways of working together in the interests of vocational education students. The following ways in which the counselor serves as a change agent through relationships with administrators are illustrative only of minimal activities which should exist in all school systems.

1. The counselor should supply the administrator with basic bits of information regarding students holding implications for the structure of vocational education. Normative results from standardized tests, group summaries of personal history data, summaries of student vocational plans, and results from follow-up studies of former students are illustrative of the kinds of information involved in this activity. Such information, collected as a routine part of data needed by the counselor in performance of his guidance duties, may in many cases serve the administrator in formulation of broad school policies, in public relation efforts, and in gross evaluations of program effectiveness.

2. The counselor should supply the administrator with basic facts regarding labor market information. As with appraisal data, such information is collected by the counselor for guidance and counseling uses. This same data can serve a most useful function to the administrator concerned with problems associated with curricular changes required to meet continuing occupational changes both in the local community and elsewhere. Where such information is combined with results from student follow-up studies, the administrator has the further advantage of knowing something with respect to differential weighting to be given to local as opposed to state, regional, or national labor market changes.

3. The counselor should supply the administrator with basic bits of information obtained from prospective vocational education students who failed to enroll as well as those who did enroll in vocational education programs. Such information will allow the administrator to improve his judgments regarding the potential need for vocational education as well as make certain kinds of assessments regarding the extent to which needs for vocational education are being met.

In at least these three basic ways, the counselor is seen as an active change agent through information he supplies the administrator. It should be noted that the counselor has not been pictured here as a determiner or maker of either curricular or more general school policies.

(For example, he is not a selection officer responsible for admitting or denying admittance to prospective students.) Rather, he serves as one of many resources the administrator calls upon in his policy-making deliberations.

The Counselor And Employers

The counselor should not function as a job placement officer, for, to do so, implies certain commitments to prospective employers holding potential for interfering with the counselor's primary commitment to students. In spite of this, there are certain very important counselor activities with employers which should be carried out by those counselors seeking to serve vocational education students.

1. The counselor should seek to involve employers in the vocational guidance program of the school. Such specific activities as employer participation in community occupational surveys, employer talks to groups of students in the school, and student visits to business and industry are illustrative of ways in which this function is commonly performed. The counselor must be concerned with obtaining both employer support and participation in activities such as these.

2. The counselor should seek to make employer needs for workers known to students and student needs for jobs known to employers. This includes both the kinds of part-time jobs students often find while going to school and the full-time jobs students hope to secure upon completion of training. This dual collection and exchange of information holds potential both for decisions students make about employers and decisions employers make about students. The counselor can function effectively as a means of encouraging students and employers to meet without directly recommending either to the other.

3. The counselor should supply prospective employers with specific bits of information requested by employers providing the student agrees to its release. In some vocational education settings, a formal placement office will be established. In others, no such office will exist. In either event, the counselor's responsibility for release of student information is the same, i.e., no information is released to employers without the express consent of the student. It should be noted that the counselor does not and cannot feel a similar responsibility to keep employer data confidential from students. The counselor should give the student any information about the employer which appears to hold promise of helpfulness in decisions being considered by the student. This kind of function is illustrative of specific reasons why the counselor should not function as a job placement officer.

The Counselor And The Community

The counselor must see himself as functioning outside the school setting as well as with students and staff in the school. In addition to employer relationships just discussed, there are two other important kinds of counselor activities which should be specified.

1. The counselor should work actively with others interested in meeting the guidance and counseling needs of youth. The school counselor has no corner on concern for counselees. If the needs of youth are to be met, the school counselor needs the help and services of many people. Included among these are other counselors such as those located in public employment, vocational rehabilitation, religious, community mental health, and recreational settings. The school counselor's relationships with such other counselors will depend on their mutual qualifications and professional confidence each develops in the other. In addition to others who may properly be regarded as part of the broad counseling and guidance movement, there are a host of others in any community interested in and dedicated to a concern for youth. Included among them may be representatives of social work agencies, service clubs, religions organizations, and business and professional organizations in the community. The counselor has a responsibility for working with all such groups and individuals in the interests of vocational education students.

2. The counselor should seek to become an active change agent in the community in terms of community perceptions of vocational education and students in vocational education. If the counselor doesn't believe in vocational education and its students, he should seek to serve students in other settings. If he does believe in vocational education and its students, he should seek to transmit this belief to a wide range of others in the community. This can be done best through presentation of facts collected by counselors from students enrolled in vocational education and from students who have completed vocational education programs. It is the counselor's responsibility to transmit such facts beyond the walls of the school. In too many communities, the vocational education student and prospective vocational education student hears negative comments made about vocational education from many sources. Such comments and the attitudes which generate them have a depressing and demoralizing influence on those students who express an interest in vocational education. They are unfair to the student who is trying to

make rational decisions and to vocational educators who are trying to meet his needs for job training. The professional counselor cannot simply allow such community attitudes to continue to exist without making some attempt to alter them. By this, it is not implied that the counselor should seek to combat one bias with another. In addition to being basically unethical, such an approach would probably be quite ineffective. Instead, it is the counselor's job to produce the kinds of evidence - facts - truth - which hold potential for changing such community attitudes. When such facts become known to the counselor, he should use a variety of means - including school publications, speeches, and community mass communication media - for making them known to all members of the community.

Summary

An attempt has been made here to picture the role and service responsibilities of guidance counselors in vocational-technical education through specifying general activities in which counselors should engage. Each function has been stated in the form of goals which should be attainable to some extent in any vocational education setting. By stating functions in this manner, it is hoped that both counselors and vocational educators will be in a better position to evaluate effectiveness of guidance in vocational-technical education. That is, each goal function listed can be translated in terms of a criterion for use in evaluation.

Some progress can be made towards attainment of these goals in any setting. None will be attained fully if the counselor is seen as the only person performing a guidance function. Each of these goals is stated in such form that evaluation can be based on progress towards reaching the goal rather than in terms of its absolute attainment. That is, none of these goals has a perfection point which represents a final achievement. Special stress has been placed on avoiding a discussion of counselor methodology in progressing towards these goals. It is anticipated that well prepared and dedicated counselors will find a wide variety of methods and procedures for use if the goals themselves are accepted.

If this paper has any positive contribution to make, it will be in helping vocational educators and counselors decide together on answers to the basic question of why guidance personnel should be supported with vocational education funds. If agreement can be reached on this question, then the perceived importance of these goals will play a major role in other basic decisions required for the establishment and maintenance of effective working relationships between counselors and vocational educators. It is time we progressed in this direction.

Reference To Supplementary Writings Of My Point Of View

1. "Needed Counselor Competencies in Vocational Aspects of Guidance." Paper presented at the Arlie House Conference, George Washington University, December 13, 1965.

2. "Education As Preparation For Employment." Paper prepared for the Presidents Commission on Automation and Technology. October, 1965.

3. "The Challenge of Guidance to Vocational Education." Paper presented at the American Vocational Association meetings. December, 1965.

4. "New Challenges For Guidance In Vocational Education." National Association of *Secondary School Principals Bulletin*, May, 1965.

5. "High School Guidance And The Specialty Oriented Student Research Program." *Vocational Guidance Quarterly*, Summer, 1965.

6. "Communicating Guidance Information To Specialty Oriented Students." *Audiovisual Education*, January, 1965.

A REACTION TO HOYT'S PRESENTATION ON "THE ROLE AND SERVICE RESPONSIBILITIES OF GUIDANCE COUNSELORS IN VOCATIONAL-TECHNICAL EDUCATION"

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I have the advantage of having had a copy of Dr. Hoyt's talk for about a week. I have read it several times; each time I found connotations which didn't appear in previous readings. As a consequence, I am sure you who have heard the talk only, will not grasp all the implications which you will when you see it in print. This makes me wonder whether we can come to any kind of an agreement here this morning.

It seems to me there are two major factors which we must consider - and I have heard them mentioned several times during the meeting - (1) you organize everything possible that is mechanical or repetitive in nature; so, (2) you have time for human factors. If we can use computers; if we can reduce mechanical factors to formulas, then time saved can be devoted to personal needs which, at least today, are still uncertain.

Yet, we have evidence that certain pills may change the learning ability of a person. An article in the Chicago Tribune explains how scientists can take an embryo from one animal, plant it in another, and watch it grow. What the future holds in understanding of personality could change our whole approach to counseling. However, my assignment is to react to what Dr. Hoyt has said. I agree and I am sure everyone will agree with Dr. Hoyt that vocational administrators and counselors will have points of view that vary with their personal experiences and the particular economic, social or geographic setting in which they serve. Every community is somehow unique; we cannot take per se what succeeds in one case and transfer it to another with the same effect. My work in vocational education in four distinctly different communities convinces me that this is true.

However, one statement Dr. Hoyt made is a universal: "the potential of any educational program is limited by the quality and the quantity of its students." Applied to vocational education this doesn't mean that great numbers of students must be counseled into every vocational course. It doesn't mean that all students must have IQ's of 130. What it does mean is that the number of students and their ability must be reasonably related to the demands of the labor market.

Some of our great men in vocational education, particularly Prosser and Allen, used very simple statements to define what vocational education was intended to do. Dr. Prosser said that the purpose of vocational education is "to help a man to get a job, to keep a job, or to improve on a job." It cannot be stated more directly. This is the counselor's function in vocational education - to help a man to get a job, to keep a job, or to improve on a job. Surely, vocational educators and administrators must agree that any role assigned to a counselor must be consistent with and related to these purposes.

The functions must involve relationships with prospective vocational students, enrolled vocational students, teachers, administrators, employers, and the public as a whole, as Dr. Hoyt has outlined. The same facts about vocations must be known whether the potential student is in high school, a dropout, an employed person who is upgrading, or one who has a handicap. It is necessary to know what a person does, what he must know, and the social skills needed to function effectively in a specific occupation. The counselor relates this knowledge to the person - his capacities, interests, and opportunities. He must use many techniques. One way of looking at occupations is Thorndike's breakdown into abstract, social and mechanical intelligences.

We need a common professional language. The various disciplines involved in vocational education, including the counselors, the psychologists, the sociologists and others have languages of their own which do not promote effective communication. To illustrate: There is a book in the library at Columbia University which was one of the first efforts to explain supervision in education. It contains a story in which a supervisor entered a classroom and asked the teacher to teach a lesson. The teacher said to one of the little children, "What is that plant over there?" The student replied, "That's a feather." Truly, a fern does look like a feather.

Actually, terms used within a discipline may be misinterpreted or have a different meaning in another discipline. Whether you call it a fern or a feather is immaterial but, terms must mean the same thing to parents, practical vocational educators, and counselors. This is one reason why all must function as a team.

Some influences have prevented realization of the best results from guidance. Among these is the negative attitude toward vocational education. Otto Pragan's dilemma of last night, "Do you refer to a bottle of Scotch as being half empty or half full?" states the case. Too often we say, "What's wrong with vocational education?" Why not say, "How can we further improve vocational education?"

Too many speakers, I think, have had limited experience with vocational education. The cases they contact are most likely the problem cases. We who are engaged in vocational education are aware of its weaknesses and its great values. It's time to realize that the bottle is "half full." Another statement that always amazes me is the idea that vocational students think they are second class. I don't know any vocational students who are enrolled in good vocational programs who think they are second class. In fact, I have seen positive evidence that the vocational student in a good school actually feels superior.

The crux of the whole problem is lack of variety in vocational offerings. Frequently, the counselor is frustrated. He may know that a student has special talents but the appropriate education or training just isn't available. Consequently, some substitute program is arranged. There is then no real basis for evaluating the judgment of the counselor or what success the student might have had. The solution is in the development of the area vocational schools or centers where a great many vocational education opportunities can be provided. This variety must be available if counselors are to be successful in referring people with varying talents to appropriate programs.

Again, I think there is too much emphasis on classifying students as vocational or college preparatory. There isn't any real justification for such a division. I am not sure that I disagree with Dr. Hoyt, I may be calling his fern a feather. The only valid and functional approach a counselor can take is to care for and recognize the primacy of the individual. About the same time that I received Dr. Hoyt's paper, I also received Edgar Dale's Newsletter (December 1963) in which he says, "To care deeply for persons is to see them not as plumbers, scientists, clerks, lawyers, mathematicians or as white, yellow or black. It is to see them as unique individuals." This is the root of the counselor role.

I remember such a counselor - Emily Griffith. She was a tiny woman, not quite five feet tall, but when she entered a room she was the center of attraction. For many years she was both principal and counselor at the Opportunity School in Denver. She inspired people, she made them feel worthwhile, and she changed "I can't" to "I can."

Emily Griffith used to say, "I wouldn't store the records for the school in a shoe box under the stairs - if we had any other way to do it, but I'm not going to take the time away from people to keep records." In the counselor's role the individual is important. Emily Griffith's kindly assurance, "You can do it" typifies this role.

There are too many examples of success through the vocational approach to education to justify classification of students according to academic achievement. Some years ago, in Kansas City, the personnel director of a large company, said he had concluded that they would no longer select engineers to handle trouble shooting problems in automation. He said, "A skilled man has special abilities. In a trouble shooting situation the trouble shooter is asked to make judgments, decisions based on incomplete data in a difficult-to-define situation where time is of the utmost importance." "I am sure," he said, "in my own mind, that the trouble shooting technician is not somebody who was too dumb or too poor to have obtained a technical degree, he is an expert, taking second place to nobody."

I think there is a great force which is constantly cataloging, classifying, and assigning us to areas of operation - not necessarily specific jobs, but areas. The abilities and interests begin to show in the elementary school student. I agree with Dr. Hoyt that it is unfortunate that no provision is made in the Vocational Act of 1963 for guidance in the elementary school. Through organized counseling we could assist in discovering the interests and abilities of youngsters and to encourage their development.

Counselors need to identify and classify interests and abilities according to broad groupings or clusters of occupations. In Gary, we have been exploring a system of clusters as a basis for vocational guidance in the junior high and elementary school, and for curriculum development in the area vocational-technical school. I have about fifty copies of some material that will describe it for you who are interested.

Briefly, the ten clusters are: Building Construction and Maintenance, note that we have added maintenance; the common thread that runs through all of these occupations is the physical construction involved in the original structure and fixtures, and the subsequent care of them. Business and Commerce is the second cluster; the common thread that ties these occupations together is contact with the public in promoting distributing, accounting and reporting. The Communications field includes all of the graphic and performing arts; the common thread involves transmission of ideas and information. The Extractive Industries are concerned with the production and/or conversion of material resources found in the earth or produced therefrom. The Health and Personal Services cluster includes occupations concerned with the care and improvement of personal health, appearance, nutrition and the general well-being of people. In the Marine Trades we are concerned with the construction, operation, and maintenance of ships and boats of all sizes. Mechanics and Metal Working occupations are tied together by production, maintenance and repair functions involving metals of all kinds, sizes, shapes, types, alloys and finishes, and use of test and power machine tools. Protective Services has the common thread of protection of people and property. And, in Technology we are concerned with electro-chemical and mechanical fields; with the combination of applied science, math, design, mechanics and instrumentation. The Textile and Leather cluster involves use and care of various kinds of fabrics, leather, fur and findings. We have not included professional occupations but they can be classified in these same ten clusters for counseling purposes.

We have had some opportunity to apply this cluster system. Last summer we had some 480 13-15 year old youngsters in a "Preview of Occupations" program. Each student observed at least three or four different types of businesses in each of the ten clusters - at least forty different types of businesses and many different occupations. The evaluation has not been written as yet, but a quick comparison of occupational choices at the beginning of the program and after it was over has been made. The results indicated that while students switched from one occupation to another, changes were within a cluster. For example, a student might choose carpentry and later choose bricklaying. We believe this cluster system will make it possible to relate talents observed at elementary and junior high school levels to occupational interests and vocational education programs at the high school lebel. It is unrealistic for one-third of a student body to choose professional occupations in which only 12% of the people are actually engaged. Conversely, when 29% of the labor force is involved in the Metal and Metalworking industry in a community, an expression of interest by only 7% of those preparing for the labor force is also unrealistic. The counselor must choose appropriate media in assisting the student to make appropriate vocational choices.

Another factor referred to in Dr. Hoyt's paper is the division of responsibility. Here, again, I may be calling his fern a feather because there are many different kinds of situations, and he has deliberately said that we are merely defining the functions of a counselor. But, I find that many of the functions he has defined are in reality the functions of the vocational coordinator. I think the counselor-teacher relationship should be reversed; the teacher should be keeping the counselor informed. It is difficult for teachers to keep up with their occupations - let's not limit their responsibility. Neither should the counselor relieve the vocational coordinator of his responsibility to find out what the needs of business and industry are and to organize the program in relation to them. We need to clarify these relationships because in the long run a counselor cannot possibly be an expert in all occupations.

Dr. Hoyt's list of functions visualizes the counselor as an active change agent in the community. He envisions the counselor as a staff person with the basic responsibilities to assist the students and to serve as a resource for others. I don't think anyone should argue with that concept. As a vocational educator, I think most of his statements are correct and perhaps all of them would be in some situations. However, as opportunities for try-out training increase, students should need less assistance in choosing an occupation and more emphasis may be given to the less tangible personal problems which arise in people's lives.

I think, finally, that attention should be given to identifying those factors in guidance and counseling which may be classified as mechanical - repetitive operations calling for little judgment - so the professional counsler may devote his entire time to the human, intangible, and frequently unpredictable problems which cannot be organized.

GUIDELINES FOR PRACTICE

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I consider it both a privilege and a serious responsibility to be asked to serve as one of the summarizers of this very comprehensive conference. You should be informed, however, that among other shortcomings, I have an uncanny ability to create dilemmas for myself. Thus it was, in preparing last evening for this final session, I was confronted with the uncomfortable realization that during the past three days I had dutifully taken down not only everything the speakers said, but everything they should have said as well! The considerable material to be absorbed in such a limited time period and the high expectations held for the outcome of this conference have made me, in this assignment, feel a little like the "shotputter who backed into the javelin-thrower and ended up making a record for the broad jump!"

It is helpful, I think, to consider the ideas brought out in this conference against a backdrop of the past. A brief excursion into the history of guidance in this country is all that is necessary to discover the common heritage which exists between this movement and that of vocational education. In the beginning, guidance was primarily vocational in nature. Occupational information, one of several tools in the counselor's armamentarium of techniques, received impetus in the year 1906 in the work of the National Society for the Promotion of Industrial Education. At that time, an awareness of the need for occupational studies grew out of attempts to develop a curriculum for industrial art. Later, with the passage of the Smith-Hughes Act of 1917, the guidance aspects of vocational education became more firmly set. The marriage was formerly recognized in 1946 with the passage of the George-Barden Act, an act which permitted federal support for guidance in vocational education.

Now, like the history of so many marriages, the early years often prove difficult, as each partner with a personality of its own, each different from, yet similar to the other, strives to determine that which it can give to the other, without in the course of doing so losing its own professional identity. Fortunately, we have in the Vocational Education Act of 1963, a reaffirmation, in the public mind at least, of the goodness of this marriage. But this comes at a time when the world in which we live is undergoing a major upheaval, and the two marriage partners are experiencing almost overwhelming pressures to change. The problem is further compounded by the fact that change is often experienced by the two partners in dissimilar ways.

In order to help us understand how change is affecting us and, at the same time, cement the vocational education-guidance relationship, we choose finally to invite in behavioral and social science consultants. This is at once both a blessing and a curse. On the one hand, we know, as Dr. Walter Arnold has pointed out, that educators must invoke the knowledge and understandings of many disciplines in helping us to deal adequately with our multidimensional problems. It is to our advantage to communicate with these other disciplines with all their diverse elements, for this communication promotes a gradual clarification of concepts, stimulates a subtle change of attitudes, and provides possibilities for making an infinite variety of combinations and recombinations in our thinking about education and guidance. But at the same time, as the discussions and reports of this conference so clearly indicate, there is no easy way to orchestrate the different beliefs, assumptions, and expectations found among the several disciplines in their views about vocational education, the nature of human development, or even the evolution of the social order.

An overall assessment of the conference points to the critical need to continue joint explorations with other disciplines, thereby breaking down the academic compartmentalization and fragmentation which has, for too long, existed. We come away from this conference with an awareness of the urgency of continuing to work toward a common set of shared assumptions about the individual and his vocational development, both within education and between education and other disciplines.

Purpose of Education

The differing conceptions of guidance articulated during the past three days makes the task of formulating guidelines for practice difficult. It occurred to me last evening that we can never hope to communicate intelligently about guidance without considering first the more fundamental question of what education is about.

Have we paused long enough to consider the goals which guide vocational education? One educator, during a group discussion, said that his purpose is to teach a primary skill. Another stated that he wants to help the individual make something of himself. Rosen apparently would have vocational education set a goal of meeting current manpower needs. Taken together, these expressions of purpose would indicate that contemporary vocational philosophy holds dear the idea that the individual must become some useful thing in society. Undoubtedly this goal reflects an historical imbuement with a Protestant ethic which judges a man by his wordly achievement within a merchant value system. The school has said to youth: "Look, your value and worth is contingent upon becoming useful and productive."

Guidance very early aligned itself with the goal of "usefulness" by striving to bring individual behavior up to some level or in to the pattern that society decided. Ability tests and other appraisal procedures found a prominent place in the scheme of guidance. These devices have been employed not alone to predict potential success for a useful calling, but as much to determine whether or not training and further guidance is economically feasible for the individual. Test results can provide a comfortable rationalization for discarding responsibility to those whose development will require too much of us!

What has been the effect of this emphasis in guidance, education, and society? It has created a human condition which Jules Henry[1] calls the essential nightmare - a nightmare that "must be dreamed in order to provide the fears necessary to drive people away from something (in our case failure) and toward something (success)." This condition finds the individual in a real bind - for a measure of self regard is required to achieve society's goal, but the process by which one is brought to this goal may be destructive of positive self attitudes in many persons.

Embroiled as he is in this terrible nightmare, the individual grows increasingly alienated from his own inner self. He seeks knowledge, but not out of a real love for knowledge, rather to prove his usefulness. He avoids human involvements because he is too driven to have time for them, and, besides, involvements open him to the evaluations of others and these others may confirm his fear of being unworthy, not useful. The youngster of average ability clamors to get into college in the belief that this is the only way he may prove his usefulness. The so-called disadvantaged youngster drops out of school, for he cannot tolerate the destruction to self. And the nightmare goes on.

So when Tiedeman speaks of a goal of liberation through vocational education, I have to listen. The paper prepared by Tiedeman and Morley provides a helpful frame for focusing the comments of several conference speakers who have argued for a broadened concept of vocational education. A goal of liberation signifies that the highest function of any education, including that devoted to vocation, must be to help people understand the meaning of their lives.

The liberating value of vocational education will depend on the spirit in which it is undertaken. Even a narrow training in technique contributes something to this goal, for a confrontation with technique aids in discovery of potentialities; successful mastery of technique builds confidence by giving the individual a greater measure of control over his life. But vocational education which is truly liberating goes beyond this in assisting the student to learn the trade in its total context of human behavior and social aspiration. Meaning is created through educational efforts which enable the student to discover himself and his own aims, and to understand his relation to fellow man and larger purposes. Indoctrinating him in the expectations which will make him acceptable to the employer is oppressive, but casting these expectations as problematic situations to which he can react by fashioning a range of responses is liberating. Meaning for the individual is built up as he is helped to understand the basis of his actions and encouraged to choose for himself what he will be in different situations.

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[1] Jules Henry. Culture Against Man. New York: Random House, Inc., 1965.

Vocational education, then, is being asked to consider the problem of living along with livelihood. We are not to make the mistake of assuming that man needs only to satisfy material wants or obtain a larger share of merchant goods. Human satisfaction seems to be approached through a process of liberation by which the individual comes to feel himself as a value-determining agent. In keeping with this broadened goal for vocational education, it is possible to set forth a few guidelines for guidance practice.

Guidelines for Practice

1. Guidance is A Process of Helping the Individual to Examine His Life Experiences to the End that He May Know and Choose Himself and His Actions More Clearly and Purposefully.

Gross has shown us how the individual today, lacking information, often has to adjust ends to means in making decisions. This begs the more critical problem for guidance, namely: the inability of people to see the range of means available to them. It is of concern that the home, the school, and society often promote a subtle, even ruthless, coercion of means-end matching, depriving the individual of opportunity for choosing and creating goals and means of value to him. The effect this cocercion has in narrowing perceptions and preventing people from freely choosing is a human tragedy.

Providing more information of an educational and occupational nature most certainly would aid decision-making, but the greater need is that of encouraging intelligent appraisals on the part of the student of a broad range of means. He needs to discover what he will allow himself to know and do in various situations calling for action. This means rendering conscious those coercing factors which constrict his range of alternatives. The student should be encouraged to question the old rules learned in the home, the advice of an energetic vocational teacher who is set upon "selling" his program, and the mundane prohibitions which society so often seems to say are beyond his right to question. Guidance will foster in the individual a conscious awareness that he does have choices, and assist him to verbalize and make explicit those choices he is presented with, and to translate these into action.

2. Both Teachers and Counselors Have Roles to Play in Guidance, but the Counselor should Make a Unique Contribution to the Vocational Program.

Thirteen vocational directors with whom I talked this past year were unanimous in stating that the counselor they employ must be a special kind of person. A considerable number of them indicated that he should be a good model. More often than not, they meant by this he should be a "father figure", a dean of men type.

Adolescents do need adult role models, but the kind with whom they can identify and test their emerging self perceptions. It is unfortunate that many people attracted to counseling careers are preoccupied with meeting needs of their own. Caught up in an essential nightmare of their own, these counselors impose conditions which do not permit the development of secure and meaningful relationships with students. With such models, the adolescent does not feel free to try roles and values on for size and to reject those which fall short of fitting his emerging self structure.

Tiedeman mentioned that the vocational teacher's first commitment is to his subject and field. This commitment necessarily sets limits on the ability of the teacher to respond to the student in any way other than as a devoted disciple and practitioner of his trade. The counselor, in contrast, has a primary commitment to the student. It may be a small difference, but a significant one. The difference enables the counselor, to a greater degree than is true of the teacher, to employ his powers in permitting the student to be - to be himself. Of course the counselor, too, has commitments of sundry kinds, commitments which may affect his helping relationships. But if he has been adequately prepared, his training will have given him some understanding of these commitments and how they enter into his counseling. This experience in self-awareness enables the counselor to become more open in his relationships and to supplement in unique ways the counseling done by vocational teachers and administrators.

3. The Educational-Vocational Framework Provides the Most Logical Rationale for Pursuing Discovery of Self.

Dr. Arnold asked: "Why do counselors neglect vocational guidance?" One might speculate that the disproportionate amount of time counselors spend on matters of college choice, registration and program planning (as research has shown) is related to the insecurity they experience in counseling for vocation. If this is a valid assumption, vocational-technical schools could provide a valuable service by offering programs which update counselors' knowledge of industry and work. The vocational school is far better equipped than the university to provide this type of education, for it is a natural laboratory representing a certain segment of the work world - a segment least familiar to the majority of counselors. Not only would such programs do much to upgrade counselor competency in the vocational area, they would also provide the guidance worker with a better understanding of the philosophy behind vocational education.

Very likely the lack of attention to vocational guidance can be attributed in part to the increasing concern of counselors with personal development - i.e., helping students realize more fully "who they are." We have already seen that this objective comprises the essence of guidance. But counselors and vocational educators have yet to understand the significance of helping students explore self in relation to the world in which they will work and live. If our guidance programs are to touch the lives of each and every one, there has to be some framework which offers a socially acceptable means for exploring self, and this framework has to be broad enough to permit entertainment of the full range of counselee concerns related to life development. It has become clear to me that a student's perceptions of the world of work and related educational opportunities offer rich material for developing meanings about himself. And it seems equally clear that current theory and research in career development provides the concepts needed to show that occupational exploration is not a separable part of the counseling process nor is personality independent of career. As one group of theorists has said: "Career development is self development viewed in relation with choice, entry and progress in educational and vocational pursuits.[2]

4. The Criterion to be Employed in Defining the Role and Functions of the Counselor in Vocational Education is Psychological Consistency.

The counselor engages in helping relationships characterized by a high degree of trust. It is not possible to organize his role in vocational education around some set of functions which may fit conveniently into an organizational chart. The model which must be adopted is not administrative neatness, but psychological consistency. It is not so much a question whether or not the counselor should engage in selection or job placement, but rather the manner in which he is to be involved in these activities. If his involvement is of such a nature that he must obligate his first loyalty to someone other than the student, or if in performing functions in these areas he is forced to make evaluative judgments which jeopardize his image as a helping person, then it is unlikely that he will receive unqualified respect of the students or obtain their trust.

Vocational educators have been critical of counselors in the secondary school who function in quasi-administrative rather than counseling roles. Since professional counseling is an emerging development in vocational-technical schools, vocational education is presented with an opportunity to establish exemplary guidance programs. There are signs, however, that the counselor in vocational education may find himself in the position of some school counselors who perform a multitude of functions having little or no relation to counseling. The reason this possibility arises is because administrative staffing in the vocational school has not kept pace with the rapid expansion of program; the counselor may be seen as the agent of relief for some major problems confronting the director. Wise leadership on the part of directors will be required in planning these new programs of guidance, if students are not to be denied the benefit of effective counseling.

5. There is a Job for Both Vocational Educator and Counselor in Providing Experiences Which Enable the Student to Identify Suitable Social Work-roles.

Gross mentioned the desirability of analyzing occupations in terms of roles and role relationships. As part of his occupation every worker assumes one or more social roles. He may be a leader or a follower, a supervisor or a subordinate, an initiator or a compromiser, et cetera.

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[2] D. V. Tiedeman and R. P. O'Hara. Career Development: Choice and Adjustment. New York: College Entrance Examination Board, 1963.

Hopefully, in their school lives youngsters will have opportunities to project themselves into these and other roles and try them on for size. Probably the richest source of these role try-out opportunities for most young people is part-time work experience. The vocational shop offers a role playing laboratory for some. To receive maximum educational value, however, the observations and stimuli provided by these real life experiences must be brought back into the classroom and discussed and analyzed in relation to self. There are many proper questions to ask. What roles do the various workers play? What kind of lives do they live? Do they seem to have a range of available satisfactions? How are they handicapped by controls imposed by organizations? What does all this mean to you, the student, and the kind of person you wish to become? Is there anything in what you have observed today that might provide a structure for your life, a use of your powers, a sense of being justified? The purpose of these questions is to help the individual identify behavior patterns and roles which will do justice to his self.

6. The Myth of the Individual With A Single Occupational Value Can No Longer be Supported As A Basis for Vocational Guidance Practice.

We have yet to modify the thinking of an earlier period which regarded vocational guidance as a matching of individual characteristics with an appropriate trade or occupation. Perhaps because of our claims in the past, vocational educators believe the guidance specialist, armed with a knowledge of tests and occupational information, can identify in the individual a pattern of abilities and strengths which point infallibly to a specific calling. Crites' paper supports the notion that this myth can no longer be retained in light of what we know about human development and the changing occupational scene. The myth is further challenged by recent theory in occupational psychology, studies of both occupational mobility and job evolution, and research on the relation of personality and occupation.

This new knowledge and understanding would lead us to raise questions, also, regarding the way in which vocational education is evaluated. You are aware that the Vocational Education Act of 1963 emphasizes placement as a fundamental criterion for establishing the value of our programs. Obviously the placement criterion has been promoted by those who are inclined to view the individual primarily as an economic resource; it is an evaluative criterion which fails to recognize human needs or the nature of human development.

Several vocational directors in attendance at this conference are cognizant of the inadequacy of a placement criterion, and they have spoken against it in the discussion sessions. These directors see the learning of a skill as something more than just providing the individual with a living or meeting society's needs. They envision a vocational education which along with the skill training offers certain humanistic values and liberating qualities - one that produces men as well as workers. The self exploration which is possible in mastering a skill is added justification for this kind of education. We shouldn't be too concerned if a student completes a program of training and chooses not to engage in the occupation, provided he has gotten more from the course than mere mastery of a technique! The counselor in vocational education will expect changes in career objective; the counselor's interest will be to help the individual understand as fully as possible the meaning of the change for him and the person he is trying to become.

7. Guidance in Vocational Education Cannot Escape Its Responsibility to Develop the Abilities and Talents of All Individuals.

Vocational educators say: "We are not able to serve two masters. We can't take all the low ability students, but we are willing to take our fair load." The concern expressed here, one which we all share, is that vocational education does not become simply a dumping ground. But when we staked out our area to be that of educating for vocation, we automatically assumed some responsibility for everyone who has a purposeful role to play in the work economy. We may find it difficult to serve two masters well, but we have no choice other than to serve them both.

If guidance can be accused of undue commitment to the college-bound, vocational education might be admonished for showing partiality to the student with technician potential. In exercising a commitment to the more able student (or to the program with most prestige), we must not disregard those individuals with less talent and ability, or those who in some other way are disadvantaged. I am inclined to think that vocational education will continue to be looked to for leadership in developing programs which will enable disadvantaged youngsters to build satisfying lives. This is a needed social function to which Thomas and Corwin have called attention. When counselors and vocational educators take the lead in meeting this need, the status of each will improve.

In Summary

Undoubtedly the guidelines presented here will be supplemented several-fold as each of you have occasion to review and reflect on the conference proceedings. I dare say we have only begun to discover the full implications of guidance in vocational education.

This conference leaves no doubt about the job ahead. Young and old alike must be prepared, through training and guidance, for a society which tomorrow will demand more of them in breadth and responsibility. It is helpful to remind ourselves as we face this task that the strength of our nation in the past has rested on the natural differences in individual talents and the freedom of each individual to develop and express his talents in his own unique way. It may well be that the principal value coming forth from the collaboration of vocational educators and counselors will be an ever deeper devotion to this fundamental democratic value.

GUIDELINES FOR RESEARCH

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The guidelines for research which are discussed below are based on a set of premises concerning the current status of vocational guidance, vocational education, and the relation between the two. These premises or assumptions are as follows:

1. Conceptions of vocational guidance have been changing and broadening. As a result, the entire field of vocational guidance is in need of systematic re-examination. The National Vocational Guidance Association has begun to undertake this reappraisal task as part of a project titled "Reconceptualization".

2. Vocational education is also in a state of rapid metamorphisis in that its techniques and some of its goals have been changing and it has expanded to include a number of recently emerging fields of training not considered part of traditional vocational education.

3. The strengthening of vocational guidance and vocational education requires that these fields of practice become more sensitive to the insights and concepts of the behavioral sciences. Since both vocational guidance and vocational education deal with the student as a learner, both need to know what the behavioral sciences can potentially contribute to the understanding of the student as a learner.

4. The supporting disciplines (behavioral sciences such as psychology, sociology, labor economics, etc.) need to learn much more about the aims and problems of technical and vocational educators if they are to be of maximum assistance to them. In the past, recommendations from experts in the supporting disciplines to vocational educators concerning needed changes in practice and research have not always been well informed.

5. Vocational educators must learn considerably more than they now know concerning the tradition of research as a means of discovery about human behavior and its improvement through training. Many of the conceptions of behavior found in vocational education, and the practices based on such conceptions, are the results of impressionistic and priori views of behavior.

6. Vocational educators and counselors in the school setting are not just two professional groups performing independent tasks. Their work assumes meaningfulness and effectiveness as they learn to work more closely together in the pursuit of common educational goals. This assumption is an endorsement of Dr. Walter Arnold's assertion that "Vocational education and guidance can no longer be separated."

7. The main objective of research on career development is not the prediction of vocational choice but rather an attempt to describe and account for the manner in which youth grows up vocationally. Vocational development research is principally a search for the psychological meaning of vocationally relevant acts.

Identifying Areas of Needed Research on Guidance in Vocational Education

1. Until recently, vocational guidance research has largely ignored the study of pre-adolescent youth. Since many of the attributes which are learned in early childhood, such as concepts of mastery, coping behavior, and achievement motivation, bear upon later vocational planning and adjustment, more research is needed on younger children so that we may discover the conditions under which these traits are learned.

2. The values that people hold about occupations are culturally acquired. However, we do not yet understand very much about the psychological processes by which this acquisition occurs. Research needs to be designed that will reveal how children, for example, develop their occupational valuing system as well as their generalized vocational motives. Only through such research can we ultimately learn why youth turns away from certain occupational fields without really knowing what they constitute and becomes enamored of others through the development of occupational stereotypes, many of them naive or false.

3. As new fields emerge and the nature of the industrial order becomes increasingly complex, it becomes more important that those responsible for vocational curriculum construction, training, and counseling have access to improved systems for the classification of occupations. While work is currently proceeding on new approaches to the grouping of occupations, no generally useful system for the functional sorting out of fields of work is yet available. We must therefore discover the work factors which possess the highest degree of communality, and hence transferability, from job to job as a basis for constructing improved occupational classification systems for use in vocational education and guidance.

4. A larger percentage of secondary school and post-secondary school students hold part-time jobs than at any time previously. Experience with such work is logically expected to assist youth with problems of realistic vocational planning, but we suspect that this expectation is not generally borne out by the facts. Research is needed to compare the vocational maturity status of youth who have had outside work experience with those who lack such experience. Furthermore, research studies should be designed to ascertain whether youth with previous work experience are more responsive to vocational counseling and profit more fully from it than do students without previous work experience.

5. While research has emphasized chiefly the influence of trained counselors upon the vocational plans of students, investigations are needed which will study the impact of other adults and authority figures on the vocational thinking of youth. For example, successful vocational education teachers can actually serve as adjunct counselors who assist their students to think more clearly about the meaning of their training experience in terms of planning and future choice-making. We need studies of what might be called "miniature counseling" or micro-counseling which will assess the influence of the vocational teacher on the career development of the student. Beyond that, evaluation studies are called for which will investigate the comparative effectiveness of different systems or schemes by which the vocational educator and counselor work together as a team to promote vocational development in students.

6. Curriculum research is needed that will begin to furnish some answers to the question of what kinds of formal course experiences are most likely to lead to the specified goals or behavioral outcomes of vocational education. Despite all the discussion about needed curricular changes, very few studies have yet been designed with this sort of cause-effect relationship in mind. Because the counselor is a resource specialist who possesses useful knowledge about student motives and about developmental and learning processes, he can contribute in significant ways to the analysis of problems of curriculum research and curriculum revision.

7. The average working life expectancy for American high school girls today is approximately 25 years. Yet many of these young women have seriously underdeveloped work motivation. There is an urgent need for research on cultural variables, both within and outside the school setting, that may be utilized to accelerate vocational readiness in girls. For example, what are the characteristics of the adult woman worker to whom a high school girl may be exposed, such as a teacher, that makes her an effective occupational role model? Another problem: what can research tell us about the revamping of the patterns of schooling such that they will become more accomodative of the tendency of women to interrupt their education through obligations of marriage and family.

8. The quality of commitment that a vocational education student may have to vocational planning and the attitude that he shelters toward work in general and his vocational curriculum in particular will depend upon a variety of life history and background factors that are frequently unclear to his teachers and which, indeed, may not yet be well understood by occupational research workers. Studies are needed, therefore, which investigate the comparative effects of selective life experiences, such as history of parental unemployment, parent's occupation, values held by the peer group, etc., upon such indicators of vocational development as level of occupational aspiration, accuracy of occupational knowledge, and strength of career planning motivation.

9. We continue to assume in normal economic life that the intellectual traits of the individual, such as his aptitudes and trained skills, are the only important personal variables that contribute to occupational success or failure. However, research has long shown that personality and character traits are at least as important in occupational success and advancement as the cognitive traits. Can research be designed that will help vocational education improve its student selection and training practices by incorporating more about what can be known concerning the relationship between personality variables on the one hand and training and job performance on the other?

10. A good deal of pressure exists to encourage culturally disadvantaged youth to enter vocational education programs inasmuch as they often seem not to prosper in purely academic or college-preparatory programs. Yet such disadvantaged youth have often been exposed to background variables which are serious deterrents to success in any type of formal training program, including a vocational education program. Through research we need to identify those factors related to restricted socioeconomic status which limit the youth's promise as a trainee. For example, among seriously disadvantaged youth, we commonly find a low capacity for long-range planning, limited task orientation, low achievement motivation, and noncompliance with institutional rules. Research is urgently needed which will allow more prompt identification of these limiting traits and which suggests avenues to their modification through counseling.

11. New types of post-secondary but sub-collegiate occupational specialties have recently been emerging, such as computer programmer, computer technician, social worker aide, and psychiatric aide, on which very little empirical research has yet been done and about which little is known. If vocational training programs in such new fields are to avoid some of the pitfalls experienced in older fields of vocational training, systematic and intensive research will need to be designed to identify important worker trait requirements so that curriculum development and vocational counseling can proceed on a sounder and better informed basis. Furthermore, pilot guidance programs will need to be established for selected samples of students in such new programs and evaluation of the guidance programs will need to be carried out. Among the questions which will need to be answered are those centering on what kinds of students should be encouraged to enter these programs, what course-related work experience they ought to be exposed to, and what relationships exist between performance in the training program and subsequent performance on the job itself.

12. Guidance within vocational education has not prospered in the past for many reasons, notably for the reason that relations and communication between vocational educators and counselors have hardly been ideal. Research is now needed that will focus on a study of interpersonal relations and attitudes between the members of these two fields. What, for example, is the vocational educator's concept of the counselor? Who is he? What does he do? Conversely, what is the counselor's stereotyped impression of the vocational educator? How can each learn to recognize and draw upon the particular strengths of the other to improve the effectiveness of his own work with students? All research in this area should be directed toward the identification of common professional goals and of the complimentary competencies through which these goals may be served.

13. It is unfortunately true that the typical training of the counselor does not equip him to work effectively in the setting of the vocational or technical school. In fact his training may often bias him unwittingly against the values of vocational education programs. Research can and should be done on the relation of the counselor's socioeconomic background and professional training to his occupational attitudes and values. A related study might investigate the effect of the counselor's cultural biases upon certain counseling practices such as, for example, his tendency to express unconscious approval and/or disapproval of students with varying socioeconomic backgrounds and social habits.

14. Since some students who enter vocational education curricula do not readily think in terms of long-range goals, the strategy of instruction should include the scheduling of frequent, short-term recognitions and rewards. In this connection the current work in reinforcement counseling, growing out of behavior modification theory, seems most promising. Research studies should be designed, therefore, which have as their objective the identification of effective social reinforcers for vocational and technical school students and with the schedules of reinforcement that appear conducive to high morale, improved self-esteem, and satisfactory progress in the program of training.

SEMINAR OVERVIEW: CONCLUSIONS AND RECOMMENDATIONS

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Historically the seminar represented a milestone in guidance in that this was the first time in several decades that representatives of both guidance and vocational education convened on a large scale to discuss problems of mutual concern. It is hoped that the seminar established the initial momentum for continued cooperative efforts between guidance and vocational education as well as other relevant disciplines.

At this time it is difficult to assess the ultimate impact of the seminar. In addition to improving interdisciplinary relations, it appears that the ultimate pay-off would be in terms of future action initiated by the individual participants in their respective guidance programs. There is already some evidence of this: a sizeable proportion of the participants indicated via a follow-up survey that they have already started projects generated by the seminar and others have reported plans to do so in the near future.

Although the following seminar overview conclusions and recommendations do not represent consensus of the more than two hundred participants and consultants, they do reflect a range of opinions expressed through prepared papers, post-seminar survey comments, and group discussions. The following statements do not exhaust the voluminous list of recommendations but do echo the sentiments of the varied professional groups present. Some were stated in different ways by different participants and the chairman has taken the liberty to reword comments to convey clusters of opinion.

1. Roles and service responsibilities of guidance for vocational-technical education:

(a) The general agreement on types of services provided suggest that the guidance program should be responsible for a myriad of services ranging from the traditional vocational testing to extensive follow-up guidance services to alumni of high schools. Many participants were quite emphatic in their list of services which should be provided in high schools, e.g., consulting services to the teaching staff and administration; participation in curriculum planning; personal adjustment counseling; educational counseling; liason with community agencies, referral services, parents, and industry; job adjustment counseling; extensive occupational information services; research; and more intensive vocational assessment. The majority of the participants and consultants recommend more depth in individual services and a wider range of services.

(b) Although there was fairly clear consensus on guidance services and goals, there seemed to be lack of clarity as to how the goals should be achieved. Frequently general goals were recommended, e.g., "closer liason relationships with the community", but the operational implementation of the goal was ambiguous. Related to (a) above, the public expectancies for guidance are high and far outweigh our present guidance staff manpower capacities. For example, moderately intensive personal adjustment counseling is expected as one of the many services, but this is rarely achieved with any consistency due to the excessive student-counselor ratio in most school systems. The discrepancy between what the general public (e.g., parents, the community, the school administration, etc.) expects from guidance and what can be realistically achieved with current staff facilities places guidance in a vulnerable position. It would appear that guidance will continue to suffer from adverse critisism for falling short of its expectancies as long as the discrepancy exists. To remedy the problem would necessitate a painstaking crusade for guidance (already in progress in some states) and lengthy negotiations with the public. The public will have to eventually increase its support (lower student-counselor ratios, increased staff, and facilities) to achieve the wide range of quality services desired.

(c) A third aspect of the three-fold role and service responsibility problem (related to (a) and (b) above) is the severe shortage of guidance manpower to achieve the kind of programs which are recommended. If guidance is expected to achieve the goals briefly outlined in (a) above, then the schools will have to provide much larger staffs than the traditional one-man "Mr. Everything"Counselor. In reality what is needed is a total pupil personnel program headed by an experienced-well trained Coordinator and staffed by a number of specialists. For example, if it is expected as many have advocated, that guidance programs should provide more extensive occupational information, data on labor economics, and liason with the department of labor and the industrial community, this service alone would require a full time specialist and represent one member of the total team. The pupil personnel team would also need full or part-time specialists in test administration, placement, research, etc. to meet the public expectencies. It is unrealistic to expect a single guidance counselor functioning in a 500 to 1 student-counselor ratio school system to provide the multiple services demanded by the public. In effect, guidance administrators will have to specify the staff requirements needed to fulfill the expected services. Even if the school systems and governmental agencies are willing to provide the necessary money for the total pupil personnel program, this will not solve the problem since there is a shortage of trained personnel. A study is currently under way by the federal government to assess the interagency counselor manpower needs; unofficial reports indicate that the nation falls tremendously short of meeting the need. Some states have attempted to solve the guidance personnel shortage by employing counselor aids to perform some of the more routine tasks of the guidance program. Others have experimented in similar ways with guidance assistants. Many participants have recommended sub-professional guidance personnel with bachelor degrees or less who specialize in different aspects of the guidance program, e.g., occupational information, test administration, community relations, etc. and who work under the supervision of the pupil personnel coordinator.

(d) It was suggested that guidance consider the team approach concept used successfully over the years by others, notably rehabilitation. The team approach would incorporate a more complete pupil personnel team of specialists as suggested in (c) above. Others expand this approach to include assistance from the teaching staff, i.e., many feel that vocational teachers possess valuable experience to assist with occupational and job adjustment counseling and that there should be more formal linkage in the schools. Vocational teachers have been providing this kind of service both informally and formally for many years. Guidance personnel should not perceive this as an encroachment upon their professional competencies but as a welcome addition in view of personnel shortages. There seems to be a very sincere willingness on the part of vocational teachers and administrators to cooperate as fully as possible.

2. The training of guidance personnel for schools:

(a) There have been several recent conferences specifically on this topic. One at Queens College in New York and the other at Airlie House sponsored by George Washington University. Reactions from the participants from this conference seemed to be in agreement with the recommendations from the previous conferences suggesting modifications for counselor training. Recommendations have ranged from suggesting that counselors have an industrial practicum experience to survey courses in labor economics and vocational education. Without listing all of the specific recommendations, the general feeling is that there is a need for the inclusion of more "World of Work" exposure for the guidance counselor in a vocational school and perhaps in a general academic high school as well.

(b) It has also been suggested that counselors become competent in "Work adjustment counseling" to provide more comprehensive occupational preparation for vocational students.

(c) Continued education was advocated to keep the counselor up-to-date on new developments, labor economic trends, and community referral services. This could be accomplished through institutes, short courses, field trips, etc.

(d) The question was raised by some participants as to the level of training required by guidance assistants or counselor aids who are working as a sub-professional in the pupil personnel program under the supervision of the certificated guidance counselor. Some feel that sub-professional guidance assistants could be trained at bachelor degree or less. Services provided by guidance assistants will not be spelled out here since they were previously discussed above.

(e) The frequently heard complaint that guidance personnel are not familiar enough with vocational education and vice versa suggests that perhaps each group could provide reciprocal exposure as part of their training program. Survey courses in vocational education and guidance might prove beneficial.

3. The problem of educating our culture to the changing world of work and improving the image of vocational education:

(a) Earlier exposure to the world of work starting in elementary and continuing through junior and senior high school.

(b) Continued efforts among guidance counselors and vocational educators in educating the community.

(c) The reflection of positive attitudes about vocational education by school personnel in their interaction with the public in general.

(d) Many participants feel that the best "image builder" is the vocational school product per se, i.e., insuring that the vocational school graduate exemplifies a favorable image within the community.

(e) Vocational education should take a more active role in communicating extensively with the general public, the school systems and the colleges. Too often students discontinue college due to an inappropriate decision for higher education and are good candidates for vocational programs but are often unaware of the vocational and technical education programs.

(f) More frequent contacts with parents keeping them better informed as to the educational opportunities for their children.

(g) Some participants feel that there is a "social class" bias and because of this many good potential students are lost. For example due to the status symbol of higher education, parents and students find college associate degree programs more attractive thereby resisting the technical school offering essentially the same curriculum.

(h) Some argue strongly for more attractive vocational programs in terms of expended curriculums, better geographical locations, more attractive buildings, and top quality equipment and facilities.

(i) There seems to be considerable discontent with the paradox of the large number of high school students enrolled in college preparatory programs (compared to vocational programs) yet a disproportionate percentage of college graduates and professionals in our occupational structure.

(j) Guidance counselors do not want to be perceived as "recruitors" for vocational programs. Counselors feel they should be loyal to the individual student and respect his decision to pursue whichever educational course seems appropriate for him based on an adequate knowledge of his own capabilities and alternatives. Too often students do not see alternatives beyond the dichotomy of work or college; the counselor needs to help the student expand his horizon of alternatives.

4. The appropriateness of our current guidance materials, instruments, and procedures for vocational education:

(a) Most participants were in agreement that our current guidance materials, instruments, and procedures leave much to be desired and in several critical areas are seriously deficient, e.g., predicting job success and satisfaction. On the other hand many were quick to point out that the value of our current materials and instruments should not be underplayed since they do provide considerable help despite their limitations.

(b) Test norms were criticized for being too frequently biased toward college and middle class populations.

(c) Although our occupational information has been continuously improving, many participants feel that it is not comprehensive enough and should include more of the sociological and psychological aspects of occupational behavior.

(d) More frequent use of group counseling in vocational guidance was recommended for its economic and interpersonal values.

(e) Despite the considerable displeasure with the current status of guidance materials, instruments, and procedures, the seminar consultants and research participants report that there is hope for the future. A number of very promising research activities are in progress and we can expect general improvement in the range and quality of guidance techniques.

5. Our effectiveness in dealing with special populations in vocational education, e.g., minority groups, unemployed adults, the educationally disadvantaged, and the disabled presents a major challenge of the era:

   (a) Most participants agree that the most important contribution in this area is early identification and prevention of problems typically encountered by these groups. Occupational training opportunities have broadened considerably and pilot-demonstration projects are in progress for continued attacks on the problems.

   (b) In many instances the difficulties of the special populations are recognized as a much larger sociological problem and not solvable by education per se. The proponents of this view recommend a large scale interdisciplinary and interagency attack on the problem.

   (c) It was recommended that vocational schools and guidance programs should more frequently use the numerous community referral services, e.g., rehabilitation, youth opportunity centers, the Urban League, mental hygiene clinics, tutorial services, etc. as early as feasible.

   (d) The special population also presents a unique problem in the development of appropriate vocational assessment techniques and procedures. More comprehensive knowledge of transfer of training, specialized recruitment and selection techniques, specialized counseling, and specialized training programs were also recommended.

   (e) School personnel should question how well they really know the special problems which confront these populations. Some evidence indicates that there is considerable discrepancy between how the problems and situations are perceived by the school personnel per se as compared to the perceptions of the actual students.

6. What are the research frontiers and future contributions of the supporting disciplines for vocational education:

   The following suggestions represent a composite of recommended research for the supporting disciplines as follows:

   (a) Psychology: Various participants and consultants suggested needed research in the areas of job adjustment, the process of learning, transfer of training, (i.e., the transferability of the basic vocational skills from one occupation to another), the development of vocational assessment techniques, counseling techniques, research designs for evaluation, curriculum development, and career decision making.

   (b) Sociology: Although a wide range of research was suggested for this discipline the participants seemed especially interested in the social significance of work; the work climate of large organizations; communication problems between disciplines; the role of leisure in the future; problems associated with the economically depressed urban and rural areas; geographic occupational mobility; and social stratification.

   (c) Labor economics: The participants were especially interested in research pertaining to occupational forecasting, projected labor trends, unemployment, curriculum development, and educational cost analysis.

   (d) There was unanimous agreement among the participants that more interdisciplinary research projects emphasizing career development, occupational choice, curriculum planning, job adjustment, the transferability of skills across occupations, and in general more frequent communication among the disciplines.

(e) Another rather strong recommendation called for much closer cooperation among the governmental agencies. It was suggested that governmental agencies with common ultimate goals, i.e., occupational training and employment engage in more cooperative large scale thrusts on some of the problems. Closer cooperation between the U.S. Office of Education and the U.S. Department of Labor was especially indicated. Hopefully the cooperative interagency thrust would filter down to the community action level for closer coordinated efforts, e.g., the school, the United States Employment Service, rehabilitation, special education, etc.

7. The economic versus psychological man issue, i.e., the degree to which guidance and vocational education should prepare students for vocational competence (non-technical aspects of work) in addition to occupational competence (skill development):

(a) The majority of the participants felt very strongly about preparing the potential employee more comprehensively to include both occupational and vocational competence. Several consultants spoke on this issue urging that we pay more attention to the broader vocational competencies of the individual, i.e., the non-technical aspects of the individual's future career life.

(b) In helping the individual become more fully prepared for his career, it was been recommended that he be given some indoctrination about the need for continued education, adjusting to job changes, adjustment to supervisory behavior, use of leisure time, work values, knowledge of fringe benefits, and the climate of organizational settings.

(c) Each of the non-technical preparatory aspects mentioned in (b) above if implemented would necessitate innovations in our current guidance programs (techniques, procedures, and staff). For example, to provide job adjustment training, specialized group counseling programs might be needed. Vocational educators working in cooperative work-study school systems report that it is mandatory that they spend a large proportion of their time assisting the student with his work adjustment. Students who are experiencing their initial job exposure are often quite naive about the vast range of "in-house work requirements" which can cause considerable distress and adjustment problems.

8. Research in career patterns:

A number of suggestions were made by the participants on this issue as outlined below:

(a) A closer look at the actual reality of an orderly career pattern for non-professional occupations.

(b) More consideration of research findings from other disciplines in formulating a theory of career development.

(c) More depth research in developmental antecedents to occupational choice and future career patterns.

(d) Research on work adjustment behaviors especially in large organizations.

(e) Improvement in career counseling techniques, assessment, and the learning process.

(f) There was considerable concern with the dessemination lag and the adoption of innovations, i.e., expediting research results into action. In this regard, some participants urged that there be more "research translators" who bridge the gap between research and practice.

(g) Research designed to assist the older worker to adjust to continued job change.

(h) The possible introduction of early similated work experience, possibly in junior high school, to broaden the "world of work" learning experience.

(i) The possibility of using research coordinating units within the state departments of vocational education as a means for implementing career research and guidance.

9. The collection and dissemination of occupation information:

(a) In general it was recommended that the developers of OI materials consider the use of data processing and computers, more realistic descriptions of occupations, long range career progressions for given occupations, experiments with different classification systems, and the individual differences of the consumers.

(b) Make more frequent use of interagency cooperation especially at the community level for keeping up-to-date with local trends possibly in the form of a community atlas.

(c) Consideration of the use of a variety of media approaches to disseminating occupational information.

(d) More projects on job analysis and task analysis to identify the transferability of skills especially for older workers.

(e) Reduce the time lag between knowledge of new occupational trends (shortage and overages) and vocational training programs.

(f) There is considerable hope for improvement in the future as evidenced by a number of research projects currently in progress.

In conclusion, it has been a privelege for The Center to sponsor the guidance seminar as one of its initial national activites. In the future The Center hopes to continue to play a major role to further strengthen the cooperative efforts of guidance and vocational education. The Center is uniquely equipped through its interdisciplinary staff consortium to provide a variety of services, e.g., the development of research projects, an information clearinghouse, inter-institutional studies, coordinating agent, leadership development, dissemination of innovation, and catalyst for new ideas and programs. At the time of this writing, several new activities are already under way and others are contemplated for the future. The Center welcomes cooperative efforts with other institutions and professional associations. It is hoped that the seminar participants and others will perceive The Center as a vehicle to focus on major priority problems.

APPENDIX A

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PARTICIPANT TABULATION BY STATES

Alabama	4
Arkansas	1
California	6
Colorado	4
Florida	2
Georgia	1
Idaho	2
Illinois	5
Indiana	2
Iowa	3
Kansas	1
Kentucky	7
Maryland	2
Massachusetts	3
Michigan	3
Minnesota	5
Mississippi	4
Missouri	3
Montana	1
Nebraska	2
Nevada	1
New Jersey	1
New Mexico	1
New York	4
North Carolina	3
North Dakota	1
Ohio	73
Oklahoma	4
Oregon	3
Pennsylvania	8
South Carolina	3
South Dakota	1
Tennessee	3
Texas	4
Utah	2
Washington	2
Wisconsin	2
Wyoming	1
Washington, D. C.	12

Total Participants 190

Total Number of States 39

APPENDIX B

GROUP DISCUSSION

Grp. No.	Chairman	Recorder	Topic
1	W. Wesley Tennyson	Lyle D. Schmidt	The roles and service responsibilities of guidance personnel in vocational education.
2	Dolph Camp	Charles E. Weaver	Administration of guidance programs.
3	Kenneth B. Hoyt	Anthony Riccio	The training of guidance counselors for vocational education.
4	Carroll L. Shartle Marvin J. Levine	Louis A. McElroy	Utilization of human resources and manpower.
5	H.H. London	William J. Schill	Recruitment and selection of students for vocational education.
6	John O. Crites David V. Tiedeman	Samuel H. Osipow	Theories and Research in career patterns and vocational choice.
7	Duane M. Nielsen Henry Borow	Virgil E. Christensen	Guidelines for research in guidance and vocational education.
8	William B. Logan	Ann M. Martin	Education "society" about vocational education.
9	Ago Ambre	James W. Hensel	Occupational information: classification systems, sources, and dissemination.
10	Roy N. Anderson	Ramsey M. Groves	Guidance with special populations: (with emphasis on the educationally disadvantaged).